THE JOURNAL OF SCHOOL HEALTH

VOL. XXVIII DECEMBER, 1958 No. 10

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THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

VOL. XXVIII DECEMBER, 1958 No. 10

PROFESSIONAL PROBLEMS AND PROGRESS*

FRED V. HEIN, Ph.D.

Council in Health and Fitness; Bureau of Health Education, American Medical Association, Chicago.

As we meet together this evening to begin our 32nd Annual gathering there are many things that could be said in a keynote speech. One might discuss the threat to school health education in the new get-tough philosophy which labels everything but the "authorities" field of education a frill and waste of time. Or one could talk about "Youth Fitness" and some of the new "bandwagon authorities" that have suddenly emerged in this area. Or one could delve into prophecy for the space age and speculate on child health needs on the moon or Mars. More to say about these later, but for now: It is my contention that: We, the school health people, right here on earth in 1958 have much to be proud of, much to be thankful for, much to consider without excessive concern over these temporary popular expressions.

If one takes the time, and intellectual energy to assess today's real values in our field, he will give thanks for all of you and those like you who give their continuing efforts, dedicate their professional careers, and devote their lives, without hope of great material reward, to a sometimes forgotten and often neglected field. In the name of these dedicated persons, I think it is only fitting and proper that at this 32nd Annual Meeting of the American School Health Association we do some good old fashioned bragging, in a modest sort of way, of course.

Evidences of Progress: Today's children will live an average of 70 years, the proverbial 3 score and 10. A far greater number than ever before will live for 80, 90, and even 100 years. By and large their longer years will be healthier, happier and more productive than at any time in history. Of every 100 babies born today, 97 will live to enter school; only 10 years ago that number was 96. A gain of only one life but how important if it were a child near and dear to you or me! And think back: At the turn of the century, 20 out of every 100 youngsters died before they were old enough to enter school.

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*Keynote Speech presented at the 32nd Annual Sessions of the American School Health Association at St. Louis, Missouri, October 26, 1958.

Some four million babies are being born each year at the present time. Of these infants 10,000 more will live to enter high school than would have been the case only ten years ago. Once in school an all-time high of 99 of 100 of them will live to attain the age of high school graduation. After that they have a fine prospect; on the average, at high school graduation more than three fourths of their lives still lie ahead.

Other Health Gains: Today's children are taller and heavier than those of any previous generation. The present crop of youngsters averages as much as 2 inches taller and 15 pounds heavier than their parents. Incidentally, their immediate forebears exceeded the grandparents in height and weight by a substantial margin. These gains have not been confined to any part of the country or to any socio-economic class. Even prison records bear out the same conclusions.

Today's children have less disease. Many of what we used to term "the common diseases of childhood" have now become uncommon—diphtheria, typhoid, whooping cough, smallpox. Most boys and girls still have certain diseases—measles, mumps, chicken pox — but these can now be controlled. Others like influenza, pneumonia and even rheumatic fever, while still serious, have lost much of their power to maim and kill.

Why Better Child Health? Improved nutrition, better sanitation, new drugs and surgical techniques, better overall medical care, improved public health services, the highest standard of living in the world, the many things these bring with them — all these have shared in the attainment of better health for young people. But I like to think that our school health programs have also played a part — a vital part — in this achievement. And I don't believe this is very hard to demonstrate.

We have failed often and in many ways. Each of us can recite these failures and we tend to dwell on them. But we have had our share — a far greater share of successes: Over the years we have discovered hundreds of health problems in children unknown to the parents or other concerned adults. By and large, most of these needs have been found at a time when they were still amenable to treatment. More often than not, through the parents, we have succeeded in getting something done about such problems. When these efforts have failed, we have usually found ways to assure the necessary care through community facilities.

Sometimes we have lagged on accident prevention but each year more attention is being given to this modern scourge of child-

hood. Slowly, by careful study of accidents to children, and analysis of their cause, we are beginning to inch out gains in this area. Our emergency care procedures, gradually being upgraded, in some instances, have prevented disability and in others have even cheated death. Our communicable disease programs have given the first indications of incipient epidemics, and afforded opportunity for control measures to be instituted. In addition the school health program provided a setting for the final act in the conquest of the contemporary plague of "polio" and may even furnish the means of ending the long-time threat of that great enemy of youth — tuberculosis. Altogether we need not suffer from inferiority — in either the educational world, the medical fraternity, or as partners in the public health endeavor.

The Association: As we begin the 32nd Annual Meeting of the American School Health Association our membership includes more than 6,000 persons. This marks an increase of almost 1,000 over a year ago despite a recent raise in dues for both members and fellows. And I am sure this increase in the size of the Association is only a mile-stone in continuing growth in membership, fellowship, and professional endeavor and accomplishment.

Growth in our membership is not the only indication of our professional progress. Particularly over the last ten years, a developing maturity in our efforts and activities has been clearly evident. Far more committees, involving a much greater proportion of our numbers, are actively engaged. But this is less important than the fact that the quality of the work of these committees, as expressed by their reports, recommendations, and publications has so obviously improved. And yet the work of our committees leaves certain things still to be desired.

In our efforts to involve more members, we include some persons whose interest lags soon after their appointment. There are others whose initial enthusiasm soon drops off until finally they fail even to answer letters. Fortunately, there is a group of newer members each year who accept responsibility, and follow through in a way that does credit to both themselves and the Association. It is from this group that the future leadership of the Association will be drawn. We need more of these professionally inclined and actively working recruits.

There are other signs of Association progress. The quality of our meetings has gradually been up graded. Now we are approaching what may be called, scientific sessions, in the field of school health. But this goal has not quite been attained. There is

a tendency to repeat, perhaps at intervals, the same old conclusions, and recommendations. A few of our meetings still deal too much with technical trivia—procedures which are standardized and the details of which are available from any number of sources. At times, too, we get tangled up in organizational detail to the detriment of the job at hand. But we are aware of these shortcomings and are trying to do something about them. And we are making real progress in this direction.

Stress on Fitness: Lately there has been a growing public professional interest in so-called youth fitness. The President of the United States, his cabinet, and leading citizens are involved. They have become concerned about the same problems which brought about the organization of the American School Health Association some 32 years ago and which have continued to be our chief concern ever since that time. In this new program, physical development, physical skills, and the correction of defects are receiving greatest emphasis. Although such concepts of fitness are narrower than ours, the objectives are the same. And whether or not the participants and sponsors recognize the fact, these objectives can only be realized through a broad approach to child health.

The American School Health Association welcomes this interest of the President and his advisors and consultants in the health and fitness of our children and youth. It commends the efforts being made to establish suitable health and fitness objectives and to implement these aims. Nevertheless, the Association has the obligation to suggest and to interpret proper approaches and to do everything possible to make certain that developing fitness programs are soundly conceived, and properly developed. Also, we are charged with the responsibility of making certain that in the name of fitness children are not exploited for the sake of personal pride, commercial gain, or professional prestige.

The man on the street can hardly be blamed if he thinks of fitness as merely a matter of exercise and physical activity. But the professional person who thinks in such terms or fosters them for any reason cannot so easily be excused. No health organization has given greater support to exercise, or more broadly speaking to the ideal of "education of and through the physical," than the American School Health Association. But we know that proper medical and dental services are prerequisites to physical activity programs. We recognize that good nutrition, proper rest and sleep, and the absence of excesses are equally important. We realize that

a safe and healthful environment at home, in the school, and in the community are also vital. So we have an additional responsibility — the obligation of interpreting this broad perspective for fitness to our professional colleagues, to school patrons, and to the public in general. And as all of us know, this interpretation is not easy.

For the years ahead such interpretation poses a difficult problem and offers a tremendous challenge to our professional ingenuity. If this broad interpretation is prosecuted vigorously and continuously, the fitness movement can support and enhance our work. On the other hand, if the public view of fitness is allowed to remain narrow and limited, the school health program can easily suffer a serious setback.

Curricular Fads and Frills: Unjust attacks on the schools undermine the public faith in education and are destructive to the morale of the teaching profession. Such blind attacks cannot be too strongly condemned and educators and school patrons have the right to react vigorously to them in defense of the schools. Constructive criticism, on the other hand, can serve a very useful purpose. Such criticism is particularly valuable when it evokes review and re-examination of programs, policies and practices. All of us who are involved in the school health program should be prepared to face both unjust attacks and critical query. If we can answer one straight-forward question satisfactorily it seems to me we are in a strong position. That question: "Is the school health program a fad and a frill?"

In turn we have some questions of our own that we can ask:

1. In an age when science is assuming increasing importance, can we afford to neglect life-science, the science of living, the science of maintaining and promoting optimum mental and physical health?
2. At a time when medical advances are coming at an almost unbelieveable rate, can we afford not to take the time to teach our youth to use these wisely and well?
3. Should we compel our children by law to come each school day into a situation that fosters contagion and then ignore measures for a communicable disease control?
4. Should we forget the life-saving emergency care procedures it has taken long to establish?
5. Should we eliminate the measures we have instituted to uncover incipient health problems and to refer them for proper treatment?
6. Should we stop worrying about good lighting for reading and studying, proper ventilation, and a safe water supply?

These are only a few of the questions we might ask. And no one in his right mind could answer in the affirmative to any of them. Far from being a fad or frill these questions reveal that health is basic to all education and to all aspects of the curriculum.

Working Together: It is not too long ago that the various disciplines interested in school health work began meeting together. Originally, as you know, the American School Health Association was a school physicians group only. Likewise, the nurses serving the school formed their own Associations. And as health education developed, the health educators organized their own groups. Now all of us join together, more than 6,000 strong, in the American School Health Association. If we could enroll all those who could and should be members — physicians and nurses serving the school, health educators, and other school health personnel — we might easily number 20 to 25,000.

We have a long way to go before we achieve that happy result. But the 6,000 of us now involved have made great strides in working together. Only a few years ago, our discussions were largely a reflection of our partisan interests. There was a hidden and sometimes not so hidden struggle for authority and ascendancy. Each of the disciplines seemed in need of self-justification and self-elevation in terms of responsibilities and functions. Frequently, following our discussions, small groups from each of the separate disciplines would go off by themselves to continue the discussion in terms of their own interests. There, they could bolster their own ego feelings without concern about "foreigners" who might intrude. But gradually we have come to see that each of the disciplines has a place on the team; a specific place that is peculiar to the background and skills of that particular discipline; a place that complements and enhances the abilities of the others sharing in the job. And so gradually we move toward professional maturity based on mutual respect for each others' capacities and contributions.

In our own Association, this trend is evidenced by our desire to meet together. The great proportion of our meetings emphasizes the varying roles of the nurse, the physician, the health educator, and others in the total school health job, when we do meet separately, we deal with problems and with our contribution to their solution rather than how our particular discipline can solve the problems alone. We are, and will continue to be, concerned with the delineation of functions in terms of the best interests of the child. Our recommended practices also reflect this return to basics in which the child always remains our central focus.

Outside our Association, there are many indications of this same trend at the national, state, and local level. Practicing physicians and school health personnel are meeting together at physi-

cians and schools conferences for orientation and interpretation purposes. Other conferences, workshops and institutes are devoted to similar purposes. Coordinating committees for school health representing the various interests are becoming common at both the state and local levels. The Chief State School Officers and the State and Territorial Health Officers have outlined their cooperative responsibilities in school health work and are continuing to refine this statement of policy. For the first time, state school health educators and their compatriots in public health have met together to explore common concerns. The National Parent-Teacher Association, with the guidance of an advisory group on which this Association was represented, has promulgated policies consistent with the principles in which we believe. The "bible" of school health —"Suggested School Health Policies;" — has been brought up to date through a national committee on which our Association was represented. And these illustrations represent only a few among many indications of our growing maturity and progress towards real professional status.

In the years to come we will have further potent reasons for the betterment of relationships between all of those concerned with the school health program. Behavioral studies demonstrate that a common cause or a threat to the integrity of a group can do more to unite that group than any other motivation. We have that common cause and that threat in: 1) the hazard of a narrow interpretation of the growing and developing fitness program. 2) The danger of classifying health and health education as a fad and frill in the school curriculum.

These common causes can provide a catalytic agent which can set off a reaction in the school health field with manifold and widespread ramifications. It can help to build and strengthen the school health program as a whole. It can assist in clarifying our purposes. It can aid in improving our practices. It can weld us together and generate closer cooperation than there has ever been before. It can mark the beginning of a new era of professional progress. This is the challenge we gladly accept with good hope with firm confidence in the future of the programs we promote and the children and youth we serve.

* * * * *

MEETINGS

1959: *A health education year.* 4th World Congress, Dusseldorf, May 2 - 9; WHO Sessions, May 12, Geneva; ANCHEP Annual Assembly, February 10 - 12, New York.

REPORT OF THE PRESIDENT*

RUTH H. WEAVER, M.D., M.P.H.
Director of Medical Services, Board of Public Education, Philadelphia, Pennsylvania

It has been a privilege to serve as President of the American School Health Association during the past year. Election to this office is a great honor but also a responsibility as head of such an important organization. Without the guidance of the Executive Committee and the Governing Council, no President could function adequately. The actual work of the Organization, as you all know, is done by the standing and study committees.

This year has been one of transition and reorganization. I should like to call your attention to just a few of the important events of the year. First, our loyal and devoted Secretary-Treasurer has become the full-time Executive Secretary of the American School Health Association. He was able to do this because of his retirement from active service with Kent State University. This involved the development of a code of responsibilities for this new position. Our very able former President, Dr. Fred Hein, appointed Dr. Paul B. Kinney to assume this responsibility. His carefully thought out report was submitted to the Executive Committee and then to the Committee on Constitution and By-Laws for implementation. It was presented to the Governing Council for action at this convention.

For years, the question of an increase in dues has been under discussion. Finally last year the dues were increased without any appreciable ill effects. In fact, there has been an increase in the membership, a net gain of approximately 790 this past year.

The Committee on Study Committees has continued to be active under the Chairmanship of Dr. H. F. Kilander. It has been necessary for him to change some Chairmen and he has added a new committee, the Committee on Safety Education. The Committee on School Health Services, formerly chaired by Dr. Claire A. Christman, is now known as the Committee on Physicians' Responsibilities in Schools and is chaired by Dr. Donald A. Dukelow. There has been a change in the Committee on Institutional Members under the Chairmanship of Dr. Charles W. Pemberton. This has been combined with the Membership Committee. The Committee on Teacher Preparation in Health Education received a new Chairman this year. Dr. Dora Hicks headed that committee very ably the past four years and their comprehensive reports

*Presented at the Second General Session, A.S.H.A., October 27, 1958, Annual Meeting, St. Louis.

were published in the Journal. The new Chairman, Dr. Wesley P. Cushman, was appointed late in the year, therefore committee activities of necessity have been curtailed.

In May of this year The National Tuberculosis Association met in Philadelphia. Dr. J. A. Myers, Chairman of our Committee on Tuberculosis, invited me to be present and participate in the program he had arranged. I was very happy to do this. It was generally agreed that this meeting was one of the best at the convention. This inspired us to see whether the American School Health Association could meet informally with other organizations. Due to the generosity of Dr. Fred Hein, it seems likely that an informal gathering of local American School Health Association members might be arranged at the meeting of the American Medical Association in Atlantic City in June 1959.

Our Committee on School Nursing Policies and Practices under the Chairmanship of Irma B. Fricke has continued to be unusually active this year. I can recall at least two meetings held in New York that were most productive. To give you one concrete example of the results of their work, we now have in Philadelphia at Temple University a full year's course on Principles and Practices of Public School Nursing. The Committee on Dental Health Program in the School under the Chairmanship of Dr. Ross E. Gutman has undertaken an extensive survey of the duties and activities of school dental hygienists throughout the United States. Our very able Program Chairman, Miss Lyda M. Smiley, has more or less commuted from California to New York in her zeal to arrange an interesting and stimulating program. You will be delighted with the many conferences she has arranged for the American School Health Association and the joint conferences with various sections of the American Public Health Association.

Again this year Dr. Hinrichs edited the Journal and provided us with outstanding and timely reports on all phases of School Health. It is not possible to name all of the persons who contributed so loyally to the work of the American School Health Association this year.

I should like to thank all of the members of the Governing Council, the Executive Committee and the various Committees for their splendid support this year. The responsibilities were lessened due to the meticulous handling of the Organization by our former President, Dr. Fred Hein. It will be a pleasure to turn the office over to such a capable person as Dr. Delbert Oberteuffer, our new President.

REPORT OF THE EXECUTIVE SECRETARY*

A. O. DEWEESE, B.S. Ed., M.D.

We are always anxious to know how things are with the family; how is father's business; is he working too hard; is the mortgage paid off; what was left after the income tax was paid; and is mother taking care of herself and the rest of the family?

I am sure that you as a member of the American School Health Association are anxious to know how things are with this family. I am glad to report that the President, Ruth Weaver, has mothered us through a very happy and successful year and that everything is well with your school health family.

It started the year with a balance in the treasury of $6,605.34 and ended the year with a balance of $6,545.77.

The receipts for this year, almost entirely from your dues were $23,817.07. The expenditures were $23,876.64.

Of these expenditures $12,494.84 was used in printing, mailing, and editing the Journal. Another undetermined amount of time and money associated with the business of getting the Journal printed and in your hands from the office of the executive secretary makes it possible that much over one half of your yearly dues comes back to you in the issues of the Journal.

$6280.00 was spent on the maintenance of the central office; $413.19 for the annual convention; $1,997.90 for office equipment; $2,067.21 for printing, stationery, postage, auditing, telephone and telegrams; $400.00 for membership campaign and $223.50 for such incidentals as association memberships and postage for officials.

With a membership of between six and seven thousand the central office has difficulty in keeping up with you. By the time the central office has sent some 7000 of you your notices for your dues, and returned your membership card; sent a high percentage of you a second notice, and a few a third notice; kept track of your changes of address for the Journal; answered your inquiries; contacted the prospective members you recommend; contacted the various committees and executive officers, some 24,000 pieces of mail have passed through your central office. This is an average of some 800 per day.

Fortunately with this increase of family duties, you now have for the first time in your thirty-one years, a home of your own. It is situated in the Kent State University business district across the street from the university library in Kent, Ohio. It consists of

*Presented at the Second General Session, A.S.H.A., October 27, 1958, St. Louis.

a waiting room, a large office room, 15′ by 15′ and a large storage, mimeographing and mailing room, 15′ by 20′. From here we shall be glad to greet you personally by letter or phone at any time.

Your home office was equipped and beautifully furnished mainly by your contributions last year, sponsored by J. A. Myers, M.D., for this purpose.

Your family has increased in size. 1287 new brothers and sisters were born into the family last year. You lost through death, retirement, change of position, marriage and divorce, 497. This leaves you an overall increase of 790.

The school nurses seem to be the most active and prolific members of our family. They alone accounted for 413 of the 790 overall increase in our membership.

The total active membership as of September 1 was 6,396. We have not as yet begun to touch the potential of our membership. When a state the size of New Jersey has a membership of 441, it indicates that in many states there are school health people that would be anxious to be adopted into our family if you as a good neighbor would take an interest in them and invite them into your school health family as our members in New Jersey have done.

In constantly trying to induce you to be an evangelist in membership, our motive is far from a selfish one. It is not merely to see the Association grow bigger in members. We realize that in a co-operative family such as yours it can easily grow too big in members to be effective.

In the thirty-one years of your Association, I have seen many hundreds of men and women "saved" to the point where they were happy and devoted school health workers. I have seen them bloom and develop into vigorous and effective professional personalities. I have seen them rise from obscurity to professional prominence. All this I have seen because of their association with your professional family and their reading of your monthly professional message, the Journal of School Health.

So remember that when you invite some school health individual into your family, it is not the $4.00 membership in which you are interested but rather his "professional soul." There are still thousands of lost professional souls among the school health personnel throughout the land.

The Committee on Constituent and Affiliated Organizations under the chairmanship of Leo F. Feichtner, M.D., has added to

your group one new Constituent Association and one new Affiliated Association.

The new *Constituent Association* is the New York School Nurse Teacher Association. Your executive secretary visited them in their annual meeting in Rochester, New York, this spring. We found them to be an active, strong and vigorous association with a state membership of 1500 school nurses. They are not only working to improve the professional status of the school nurse in the State of New York, but are interested and anxious to aid the development of the profession of school nursing throughout the country. They are a valuable addition to our family.

The new *Affiliated Association* is the New York State Dental Hygiene Teacher Association.

The Dental Hygienist is a new addition to our school health family of medical scientists and the allied medical scientist of dentistry, nursing and health educators. They represent a relatively new profession in school health.

The Dental Hygiene Teachers Association of New York has a state membership of 500. They are well organized and rapidly developing and standardizing their school health program. We are pleased to give them a national home to aid them in their development. They will also be a great help to us as a national organization in aiding and guiding school dental hygienists in other states.

Dr. Weaver has not only patiently mothered us through a most happy and efficient year in the material sense of finance and membership. She has also kept a loving and watchful eye over our professional growth and development. She has spent many hours and written hundreds of letters nurturing, guiding and encouraging our study committees and standing committees.

As a result we can well be proud of our professional growth and accomplishments for the year. Many of our study committees that have been active for sometime such as the study committee on School Nursing Policies and Practices, the Committee on Tuberculosis, and the Committee on School Health Service Facilities have made professional history during the year and enhanced our professional standing. All of the other ten study committees are well organized and working toward constructive programs.

As far back as the presidency of Gertrude Cromwell the Nursing Committee realized that school nursing would have to be a specialty of the nursing profession; that the school nurse would

need to be trained both in nursing and education; that she would have to be a professional person integrated into the school system with the same professional status and privileges of all other school personnel.

It is easy to understand why the various national associations of nursing, because of their past experiences and environment, were at first not very friendly to having school nursing become another specialty of the nursing profession and why our association with its co-operative organizations of school physicians, dentists, nurses and health educators should furnish the medium for its development.

During the past year the nursing committee has secured the co-operation of other nursing associations and in an extended conference made professional history toward a program of study to prepare nurses for school health nursing.

The Journal has had a very successful year and has maintained its popularity. Extra copies of almost every issue have been in demand.

* * * * *

REVIEW

New Handbook Issued on Teaching Shut-in Students

Teachers, school administrators and physicians, as well as parents, concerned with the education and welfare of boys and girls confined to their homes or to hospitals because of illness will find much useful information in a new 24-page Handbook by J. A. Richards, Director of the Special Education Division of Executone, Inc:

Titled "How To Teach Shut-In Students by Telephone," the booklet contains practical suggestions for dealing successfully with many of the educational problems of homebound and hospitalized children. The material is the result of a study of hundreds of cases in which application of a home-to-school telephone device proved of great benefit not only in enhancing educational progress but in heightening morale of immobilized children and in speeding recovery.

The nationwide survey on which this Handbook is based was conducted with the supervision and assistance of an Advisory Committee of authorities in school administration, special education and rehabilitation.

EVALUATION OF SCHOOL DENTAL HEALTH PROGRAMS[1]

J. M. WISAN, D.D.S., M.P.H.[2]
DAVID A. SORICELLI, D.D.S., M.P.H.[3]
Director, Division of Dental Health
Philadelphia Department of Public Health

In my discussion of the evaluation of school dental health programs, I shall present my thoughts under three headings:

1. Current scientific knowledge concerning dental public health among school-age children.
2. Objectives of school dental health programs consistent with current scientific knowledge, and
3. Evaluation of the efficacy of school dental programs in the achievement of the aforementioned objectives.

1. *Current Scientific Knowledge*: Currently, most dental authorities are in agreement that the incidence and prevalence of dental diseases may be reduced by:

1. Optimal fluoridation of public water supplies. That is, the adjustment of the fluoride content of a local water supply to the recommended one part per million in geographic areas where the average annual mean temperatures is approximately 50 degrees. In warmer climates, a lesser amount would be added and in cooler climates, a higher quantity would be necessary to compensate for differences in water consumption.
2. Topical application of fluoride solutions to the enamel of children's teeth in areas where public water supplies are not naturally or artificially fluoridated. It has been generally accepted that optimal treatment ages are three, seven, ten, and thirteen. I believe, however, that better results will be achieved if the initial application is given shortly after the child's second birthday. Too many children 3 years of age, already show 2 or more carious teeth. In all instances these times should be varied in accordance with the tooth eruption pattern of the individual child.
3. Provision of adequate amounts of the healthful foods.
4. Reduction in eating of sweets.
5. Brushing teeth directing after eating.
6. Incremental dental care. Basically this means selecting children in a specific age group, providing initial care and subsequent maintenance care for the annual increment of new caries each year thereafter. Each year, additional children who reach the age group included in the plan are added to the dental care program.

It seems odd that the method, which is by far the most effective preventive measure against dental caries, has incited the greatest opposition. It would seem that a strong case has been built in favor of water fluoridation. The proponents of water fluoridation can and do quote scientifically controlled research studies indicating the effectiveness, the safety, and the low cost of fluoridating water supplies. On the other hand, opponents have failed to introduce evidence from controlled experimental studies to substantiate

1. Presented by D. A. Soricelli on Monday, October 27, 1958, before the General Session of the American School Health Association.

2. Deceased. Former Director, Division of Dental Health, Philadelphia Department of Public Health.

3. Acting Director, Division of Dental Health, Philadelphia Department of Public Health.

their opposition. Thus they present only unsupported statements to bolster their claims.

The success of one part per million fluoridated water in reducing dental caries by 60% throughout life, for those drinking this water during the first years of their lives, offers to dental public health administrators possibilities for developing realistic and effective dental programs. Particularly is this true of programs for school-age children. It would seem that administrators now have the means of making tremendous progress toward the improvement of dental health conditions.

2. *Objectives*: The six points mentioned above provide specific information for school administrators to guide their dental programs with the following objectives in mind:

1. Health education programs designed to motivate parents to provide healthful foods and to reduce the eating of sweets.
2. The brushing of teeth directly after eating should be taught. This objective should be emphatically stressed. Stephan demonstrated that the acidity of the dental plaque may drop to a point where enamel may be dissolved within two minutes after the mouth is rinsed with glucose, reach it's greatest intensity after thirty minutes, and return to normal about two hours later.
3. Incremental dental care should be provided for children.

Community dental care programs should stress this principle of incremental dental care in the programs for the children selected for inclusion in the community program. Dental health educational programs should similarly stress the importance of incremental care for children of all income levels. In a city not having fluoridated water, topical applications of sodium fluoride should be encouraged, and, of course, a campaign should be organized to obtain the proper fluoridation of public water supplies.

3. *Evaluation*: Under the heading of evaluation, I will include two important phases:

1. To appraise the efficacy of dental health education programs, and
2. To evaluate results of community dental care programs.

First, concrete evidence that an objective has been achieved is the only realistic criterion for measuring achievement. It is not wise, however, to limit evaluation to that of achievement alone, since errors occurring in the beginning of a program may go unnoticed and uncorrected and disrupt the program. Evaluation of progress helps to identify these errors and also aids in the evaluation of needs and objectives. The goals of dental health education are generally not based on public need or concern and are for the most part long range in nature. Specific goals which yield immedi-

ate benefits are likely to receive better public cooperation and participation.

Three steps should be taken in order to evaluate the achievement of a dental health educational program.

First, it is essential to have a precise statement of the objectives of the program, and specific criteria that will be used to determine whether or not these objectives have been achieved.

Second, it is necessary to have baseline data to record the status of the situation at the time the program was instituted. The data should relate directly to the desired objectives.

Third, it is advisable to use a matched sample or group for a control in order to obtain more meaningful follow-up data.

Changes resulting from a specific effort of a program can best be seen when the actual status of the situation can be observed in a group not subjected to the educational process.

The method or methods used in evaluation, should be built in terms of a specific aim or goal of that program, and should be constructed along with plans for implementing the program.

Now, in evaluating the results of a dental care program we should be concerned with statistical indices which measure achievements. Again each index must be designed to answer a specific need, and special consideration should be given to the type of data which reflects service rather than activities, is related to the data used as a baseline, and is available as a by-product of administrative operation. To assure data of this type, a most important factor is the designing of records and forms for recording information which adequately fulfill the requirements.

Some examples of Indices used in evaluation, and the evaluating inferences for measuring progress are:

1. The number of children treated each year, and the percentage of this number to the total eligible population. Are more or fewer children being treated each year?
2. The average number of visits per child, both total visits, and visits per clinical session. These questions might be answered. Is maximum service being rendered to the child and is there, in the same instance, maximum utilization of the dentist's time?
3. The average number of teeth filled per visit shows the proportion of the dentist's time spent in filling teeth.
4. The number of permanent teeth extracted per 100 visits tells us if the children are getting to the clinic too late. Treatment in a lower age group may be indicated.
5. F/DMF, or what percentage of the need for fillings has been met?
6. What is the cost of the program per child, and per visit? This may lead to new objectives and a redirection of the program.

It must be remembered, in evaluating a program of dental care, that quantitative measures do not necessarily furnish a completely accurate appraisal. In fact a large number of services or operations may indicate faulty technics. It is essential to maintain high standards of treatment, and experience indicates that desirable standards may be assured by

1. designation of professional standards by the local dental society
2. interpretation of these standards for the dentists employed
3. systematic supervisory observation of treatment provided, and
4. in-service programs of training

It is impossible to present a complete list of evaluative indices which would measure the achievement of the many types of programs of dental care whose objectives vary with the need.

The objectives and methods of evaluation suggested here should help administrators to implement the basic policies for obtaining data on services, to determine the extent to which a program is utilizing currently accepted measures of prevention and control, and to observe the effect of the program on the status of dental health in the school and the community.

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Meetings—National Health Council

Estimated One Billion Dollar Annual Loss Through Industrial Absenteeism to Occupy Attention of Business, Labor, Medical, and Public Health Leaders in March Chicago Meeting.*

Leaders in the fields of industry, labor, medicine, and public health will meet in Chicago, March 17-19 to consider means of combating an estimated one billion dollar loss through ill-health of the nation's workers, it was announced today.

Announcement of the meeting was made by Dr. Norvin C. Kiefer, president of the National Health Council, on behalf of its 64 national agency members. Dr. James H. Sterner, medical director of Eastman Kodak Company, Rochester, N. Y., is chairman of the committee planning the meeting.

Dr. Arthur S. Flemming, Secretary of the Department of Health, Education and Welfare, Washington, D. C., will be one of the principal speakers.

Titled "The Health of People Who Work," the three-day National Health Forum is designed to focus nationwide attention on occupational health problems and needs.

The March meeting will bring together leaders in management, labor and community planning, as well as the health professions and voluntary and official health agencies.

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*Factory Management.

A MOTIVATIONAL STUDY OF DENTAL CARE*

B. DUANE MOEN, M.A.
Director, Bureau of Economic Research and Statistics, American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

One thing that is known with certainty about the public's health is that there is a great amount of dental neglect. Less than half of the population will see the dentist during the course of a year. To meet the existing dental needs of the population at any given time would require between five and ten times the annual productive capacity of all the dental personnel in the United States. All of the practicing dentists and dental hygienists will spend a total of less than 160,000,000 hours at the chair during 1958, an average of less than an hour per capita for our population of 174,000,000.

There has been a great deal of speculative discussion regarding the reasons why so many people neglect their teeth. These discussions usually center around two factors, fear of pain and the cost of dental care, as though the reasons for dental neglect should fall neatly into these two categories. Actually, of course, the matter is not that simple. The reasons for dental neglect, as with the reasons for most types of human behavior, are complex and call for the attention of investigators trained in the behavioral sciences.

During recent years there has come into prominence a body of social-psychological research techniques which would seem to be very appropriate for answering the question "Why so much dental neglect?" and for arriving at ways to reduce the amount of dental neglect. Motivation research, as these techniques are known, has been called upon to determine the "why" in connection with a great variety of problems.

Many people have become acquainted with motivation research by reading the book *The Hidden Persuaders*, by Vance Packard. This book deals primarily with the commercial applications of motivation research, in which ethical considerations are not always given first priority. In the commercial applications of this discipline, devious methods of mind manipulation have been used in some instances, which has given motivation research a somewhat unrespectable reputation in the minds of some people.

It should be recognized, however, that the question of motivation has been a central question in educational psychology for dec-

*Presented before the Second General Session of the American School Health Association, St. Louis, Missouri, October 27, 1958.

ades. The recently developed techniques of motivation research hold promise of adding considerable knowledge to the field of educational psychology. Perhaps it is the motivation involved in the undertaking of motivation research that determines its ethical defensibility: used to determine how to sell, regardless of needs of the buyer, it is one thing; used to determine ways of helping people to maintain their health or abilities, it is another.

The American Dental Association has sponsored an initial motivational study of dental care. The agency selected to conduct the study was Social Research, Inc., of Chicago, an agency specializing in motivation research. This initial study was designed as a "pilot" study, intended to provide experience and background for larger scale investigations in the future, should the results of the initial study indicate sufficient promise for this approach.

A midwestern community of median size, typical with respect to economic and population characteristics, was selected for the study. A sample representative of this community was selected, consisting of 126 men, women and children.

These 126 people were interviewed intensively by interviewers trained by Social Research, Inc. Questions were formulated by behavioral scientists of Social Research, Inc., to fulfill the objectives of the study as set forth by the American Dental Association.

In the probing of motivations, it has been found that people generally do not reveal the true reasons for their behavior in response to direct questioning. Motivations are complex and people often are not conscious of the real reasons why they behave as they do; in such instances the person interviewed is not capable of giving a true and complete answer to a direct question. On the other hand, and probably much more commonly, the respondent may be conscious of the true reasons for his behavior but will give other reasons because of considerations such as ego, desire for prestige or social approval.

As an example of the results of direct questioning of motivations, when people who had not seen the dentist for an entire year were asked in a mail survey to give reasons, only 2.1 per cent gave the pain of dental treatment as the main reason for their neglect. There is no question but that fear of pain is responsible for much more than 2 per cent of dental neglect, but not many of us like to admit we are afraid.

In the motivational study of dental care, questions were broad and designed to stimulate the respondent to talk freely about all

aspects of the teeth and dental care. Following are some examples of questions asked: "What are some of the problems you have in taking care of your teeth?" "What causes these problems and what do you do to prevent or solve them?" "What care do you take of your teeth?" "What have been your experiences with dentists?" "Suppose you were talking with someone who didn't know what teeth were and that person asked you to describe them. What would you say they look like, what are teeth for, how do they feel, how do they grow, how many do people have, etc.?"

In addition to the questions designed to make interviewees talkative about dental matters, certain "projective tests" were used. For example, the interviewer read a series of sentence stems and the respondent was asked to complete each sentence with the first thing that came to mind. Some of the sentence stems were: "The most important thing about teeth . . ." "Beautiful teeth . . ." "The worst thing to do to your teeth . . ." "Having no teeth . . ."

Another projective device used was the picture interpretation test. For example, the interviewee was handed a picture of a woman seated in a dental chair with the dentist standing beside her. The respondent was asked to "Make up a story about this woman —why she is here, how she feels, what she wishes she could say while the dentist works on her teeth, what she talks about to the dentist after he finishes."

The meaning of the term "projective tests" is that the respondent tends to project his own feelings and attitudes into a picture or a question which on the surface has nothing to do with himself. Thus, when the respondent makes up a story about the woman in a dental chair, he will unwittingly reveal many of his own true feelings about dental matters. Often he will not give this information in response to direct questioning because of ego involvement.

The study found that "by far the most significant consideration in understanding different types of dental care attitudes and practices is the concept of social class." Social scientists divide the population into six social classes: upper and lower *upper* class; upper and lower *middle* class, and upper and lower *lower* class. Several factors are used in making the classification, including occupation, source of income, education, residential area, type of house and organizational memberships.

The upper and lower *upper* classes are numerically very small and are not covered in this study. Following is the description of the upper middle class, which consists mainly of professional peo-

ple and business executives: "Dynamically, they approach life as a challenge to be countered, cushioned and deterred through skillful manipulation, forethought, management and leadership on their part. They seek out 'expert' advice, and in areas where they feel it is important, follow through with considerable religiosity. They take a long range view of life and want to feel prepared, to know how to prevent, or at least to deter for as long as possible, the unavoidable: aging, disease, decay, death."

Persons in the upper middle class were found to be highly appreciative of dental health, and recognized the dentist as a professional person who can prevent tooth decay and loss as well as restore decayed teeth and stop pain.

The lower middle class, consisting of owners of small businesses, minor executives, teachers, salesmen, and white collar workers, is a highly moralistic group. Dental care in this group is performed mainly as a "duty" rather than from scientific knowledge of the cause-and-effect of dental care. The social importance of attractive teeth is of extreme importance to this group.

Apparently a large difference exists between the lower middle class and the upper lower class in knowledge and appreciation of dental health. The upper lower class, consisting of skilled and semiskilled blue collar workers, has in recent years increased its income to a point not far below the lower middle class. According to Social Research, Inc., "the upper lower class is the group which needs to become the objective of major educational efforts regarding dental care, and this is primarily because they are the most accessible to these attempts and offer the best possibilities of behavioral and attitudinal changes."

The lower lower class, as a group, exhibits the greatest amount of dental neglect. Many members of this class have a considerable amount of knowledge of proper methods of dental care, but live for immediate gratifications and do not consider dental care to be worth the trouble. This attitude toward dental care is similar to many other attitudes held by the lower lower class, and dental health education in this group appears to be a formidable problem.

Although there is a high correlation between social class and attitudes toward dental care, there are, of course, individual exceptions, and some attitudes appear to be more general and not closely related to status.

In the discussion of the general concepts, attitudes and feelings people have about their teeth and dental care, the study found

that: "The most general of these attitudes is that teeth and dental care are important. That teeth are important is an assumption consistently made by all people, and that taking care of teeth is important is a value subscribed to in word or in deed by almost everyone. We find that regardless of what type of care a person gives to his teeth — and there is much variation in dental care practice among our sample — there is always the awareness of the importance of this part of the body and the 'knowledge' that dental care is of consequence in maintaining good, healthy teeth. People do not question this fact; instead, it is something felt to be true."

Teeth are considered to be important for several reasons. In addition to their essentiality and frequency of use in chewing, their effect on appearance makes them important from a social standpoint. People tend to think that the condition of the teeth is a measure of general health as well as a measure of age.

When behavioral scientists report that people are found to regard teeth as important, presumably this means that *they* are relatively important, i. e., they occupy a relatively high position in the ranking of all of a person's attributes and possessions.

According to the study, people generally know they should brush their teeth and should go to the dentist regularly. Dental health education has been effective in informing people; what is needed is methods of motivating people to do what they know they should do.

Another conclusion of the study was that there are too few pleasures and gratifications associated with dental care. There is little reward connected with dental care but much punishment associated with dental neglect. The motivational efforts have been primarily negative.

The foregoing observations constitute only a sample of the findings of the study. Other sections deal with special meanings of the teeth and mouth in childhood; the feeling of inevitability and resignation most people have about dental decay; compensations of dental disease and dentures, and attitudes of the people toward dentists.

Most of the findings of this pilot study are considered to be tentative and subject to verification by larger scale studies. It seems likely, however, that the majority of the findings will eventually be borne out by further investigation. The pilot study has demonstrated the potentialities of motivation research as a means of increasing public appreciation of dental health.

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NEWS

National Health Council and American Medical Association

The Board of Directors of the National Health Council by unanimous vote re-established the membership of the American Medical Association in the Council, effective immediately. The action followed the meeting of the Board of Trustees of the American Medical Association in Minneapolis, when it was voted to have the Association re-affiliate with the National Health Council.

The move brought to 64 the membership of the Council which was established in 1921 and is composed of national organizations concerned with health improvement.

Announcement of the move was made by Dr. Norvin C. Kiefer, president of the Council, who welcomed the membership of the AMA "as a significant step in maintaining and expanding opportunities to work together, on the part of all who have a concern for America's health."

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REVIEW

A "SURVEY OF DENTAL CLINICS IN METROPOLITAN CHICAGO," believed to be the most comprehensive report of its kind in the country, is now available from the Welfare Council of Metropolitan Chicago, 123 West Madison Street, Chicago 2, Illinois. This survey was made by the Welfare Council of Metropolitan Chicago with the cooperation of the Chicago Dental Society and sell for $1.25 per copy.

The 70 page report points out maldistribution of services, lack of personnel to staff the present clinics and limited amounts and types of services to meet the dental need of the children in low income families.

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The Third International Congress of School and University Health meets in Paris, July, 1959. The Congress is organized by the French Association of School and University Health Services, under the patronage of the Ministry of National Education.

REMINISCING ON SCHOOL HEALTH*

CHARLES C. WILSON, *M.D.*
Professor of Education and Public Health, Yale University

Early last Summer I had letters from two individuals concerned with planning this evening's program asking that I give a "short preliminary talk" prior to presenting the Howe Award. I agreed to do this. Then early this Fall I received a copy of the Annual Banquet program and found that my topic was "Reminiscenses." If those persons who scheduled me to "reminisce" did so because they think I am older than most others at this session, I resent the implication and hasten to inform them that I am much younger than they think and that there may be individuals in the audience who are older than I am. On the other hand, if they asked me to reminisce in recognition of my keen memory, I am highly pleased and gladly congratulate them on their exceptional wisdom and excellent judgment.

Reminiscing is fun, but sometimes recollections are so numerous that one becomes confounded and confused. I discovered for example, that I could remember many of the annual meetings of the American Association of School Physicians, the precursor of the American School Health Association. The sincerity, devotion and energy of William A. Howe, made indelible impressions on my memory. And I can recall with ease some of the characteristics of previous recipients of the Howe Award, all of whom I know or knew personally. I can do this because of my keen memory, not because of my age.

Rather than reminisce about procedures at former meetings of this Association, or about the personalities of those who helped in its organization or growth, I have decided to present nine selected characteristics of former school health programs and to indicate how present-day programs differ.

1. For example, I can remember when children below average weight for those of comparable age and height were labelled as malnourished and "pre-tuberculous." We have graduated from those procedures. Children are weighed and measured these days to determine their growth characteristics. Medical examinations and diet studies are used to evaluate nutritional status and the tuberculin test and x-ray are used to diagnose tuberculosis.

2. I can remember when the activities of the nurse in the school were largely related to minor first aid and to communicable disease inspections. The nurse today has much more important

*Presented at the Annual Banquet of the American School Health Association, St. Louis, Missouri, October 29, 1958.

functions. In cooperation with a physician, a school administrator, and others, she helps to develop policies and procedures relating to the care of emergency sickness and injury. These policies recognize that persons other than nurses may be qualified to give first aid. She also helps in the preparation of written policies regarding the prevention and control of communicable diseases, and assists in emphasizing the need for children to be immunized against a number of preventable diseases during the first year of life.

In counseling pupils and parents the present-day nurse performs services of much greater importance than giving first aid. Through interpreting health problems to teachers and through informing teachers concerning modern trends in medicine, public health and health education, the nurse increases her own prestige and assists in the development and improvement of the total school health program.

3. I can remember when the teacher's role in school health services was either not recognized or was minimized. In contrast to that viewpoint, many now consider the classroom teacher a key person in school health services. She is asked to observe pupils regularly and to refer for examination those whose appearance or behavior suggest that they deviate significantly from normal. She is asked to teach pupils the need for periodic medical and dental examinations and the desirability of securing such service from their own physician and dentist. She is asked to promote emotional health and to give special attention to "exceptional pupils." She is now an important member of a team, the other members of which may include a physician, nurse, dentist, dental hygienist, psychologist and social worker.

4. I can remember when jealousy and competition between departments of health and departments of education often thwarted the efforts of each. In recent years we have witnessed extensive cooperation between these departments, evidenced by an increased number of inter-departmental committees and the formation of numerous school health councils. There has been general acceptance of the interest and responsibility of both these departments in the health of pupils coupled with recognition of the unique resources of each department and the possibility of greater progress through cooperation than through isolated, independent activities.

5. I can remember when the books on school health and health education could be counted on the fingers of one hand. A publication entitled "Medical Inspection of Schools," was written by Gulick and Ayres in 1908. Walter Cornell of Philadelphia published

a book on the same subject a few years later. The first edition of *Health Education* was issued by the Joint Committee of the NEA and AMA in 1924. In 1927 Wood and Rowell published "Health Supervision and Medical Inspection of Schools." These publications, and a few others that existed in the early days of this Association, has been superseded by numerous modern, well organized and well written books. Most of you are familiar with them; many of you are authors or co-authors of such publications. We are indeed fortunate to have such helpful resource materials.

6. I can remember when health education was limited to simplified anatomy and physiology supplemented by health fairies, personified foods and meaningless jingles. Our modern programs of health education are a far-cry from the hygiene teaching of a generation ago. Attention is now given to the interests and needs of pupils, attractive textbooks arouse interest and present information in a meaningful manner, teaching methods have improved, instruction relates to the real problems of real people, and teachers are better prepared than they used to be. The content of health education is broad and varied, including both personal and community health and dealing with health areas as nutrition, dental health, family health, disease prevention, personal grooming, safety, mental health, alcoholism, first aid, and home care of the sick. The future health of the nation depends in part on the understanding of health problems by lay persons, a goal toward which health education efforts are directed.

7. I can remember when some people regarded school health services as substitutes for the care given by a personal physician. This viewpoint has been superseded by a philosophy which acknowledges parents' responsibility for the health of their children and which encourages the use of a personal physician for immunizations, for periodic health examinations and for medical treatment as needed. The physician in the school now acts primarily as an advisor or consultant on health matters rather than as a substitute for a family physician. He serves in a liaison capacity, interpreting school policies and procedures to practicing physicians and interpreting the viewpoints of practitioners to school personnel.

8. I can remember when procedures related to safety and to mental health were lacking or considered to be of minor importance. When school health services began, communicable diseases were rampant and serious. The development of preventive immunizations and the effectiveness of modern treatment measures has greatly reduced problems in this area. In their place we have

accident problems and emotional disturbances, each of which is serious enough to justify greater attention than it had in the past.

9. I can remember when school health received little or no attention from professional organizations of physicians, nurses, public health workers, and educators. In contrast, numerous professional associations are now concerned with various aspects of school health. The American School Health Association has a large membership, including physicians, nurses and educators. The American Medical Association has, since 1947, organized biennial conferences on "Physicians and Schools." The American Public Health Association established a school health section in 1942. In 1937, the American Association for Health, Physical Education and Recreation was organized, with one of its three main divisions devoted to health education. And since 1911 the Joint Committee in Health Problems in Education of the N.E.A. and A.M.A. has promoted cooperative action by the two parent bodies in matters relating to school health. Considerable time would be required just to list the activities of these groups in interpreting school health procedures to their members and in promoting better professional preparation for teachers, nurses, and physicians. Our programs are better and pupil health has been improved because of their efforts.

I could extend these reminiscenses to great length, because of my excellent memory, but I believe the changes mentioned indicate improvements that have occurred during a relatively short period of time. We now have clearer purposes for our health education and health service activities. We are relating school health efforts to those of parents and of practicing physicians and dentists. We are adapting procedures to the present day health problems of school-age children. We are relating school health activities into the total program of the school and into the total community health program. We have made splendid progress but we will make even greater progress in the years ahead. Reminiscing is particularly gratifying when it reveals evidence of progress.

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VISUAL-AIDS

"View from the Mountain," has recently been released by The American Dietetic Association. The motion picture offers a wealth of information on the preparation for careers in dietetics within an entertaining and inspirational framework.

The film was produced under the supervision of The American Dietetic Association, and its cost was underwritten by H. J. Heinz Company as a public service.

Loan privileges may be obtained, for round-trip postage only, from the regional offices of Modern Talking Picture Service, Inc.

THE WILLIAM A. HOWE AWARD

William A. Howe, M.D., founder, and for the first ten years of the life of the Association, the chief worker, secretary-treasurer, and editor, died September 10, 1940. To perpetuate his philosophy of School Health and in appreciation of his personal and professional service, the Association established the Howe Award. This Award was to be presented each year to a chosen recipient for outstanding service in School Health for the Children and Youth of America. So the force of a great personality, a personality developed over a period of a half century of living a fixed humanitarian objective for the children of our land that no adverse force was strong enough to deter or discourage, lives on as long as the American School Health Association shall endure.

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PRESENTATION OF THE HOWE AWARD TO W. W. BAUER, M.D.

CHARLES C. WILSON, M.D.
Professor of Education and Public Health, Yale University.

Our honored guest this evening, William Waldo Bauer, can recall many of the changes in school health progress to which I have just referred. In fact, he helped bring about some of the changes. I feel honored to have been associated with him on numerous projects during the past 25 years.

Previous to assuming his position as Director of the Bureau of Health Education of the American Medical Association in 1932, Dr. Bauer was school physician for the Milwaukee Health Department, and later Commissioner of Health in Racine, Wisconsin. Experience in these jobs aroused or crystallized his interest in the health of children and undoubtedly influenced his future activities.

Dr. Bauer has earned for himself an enviable and deserved reputation as a leader in health education. His writings have been numerous, varied, interesting and informative. He has been a leader in radio broadcasting, and in health education through television. No one is more familiar than he with the use of these media for health education. He is a member of "Broadcast Pioneers" and his health education activities have received awards from the Institute on Radio and Television Education.

In presenting the William A. Howe Award to Dr. Bauer, I would like to call attention to four outstanding contributions he has made to school health. In 1942, Dr. Bauer was a member of the Yearbook Commission of the American Association of School Administrators, the group that produced *Health in Schools.* He

was also a member of the 1951 Commission that developed a new report under the same title. As a member of these commissions he helped determine the content of each volume, wrote parts of each book, and contributed in many ways to the smooth functioning of the group. I recall that at the final meeting of the 1951 Commission it was decided that material was needed for an additional chapter. Dr. Bauer volunteered to prepare a manuscript for it and to mail a copy to each member of the Commission as soon as possible. We received a well-organized and well-written chapter, based on suggestions made by the Commission, in less than a week.

For many years the Joint Committee on Health Problems in Education of the National Education Association and American Medical Association had the good furtune to have Dr. Bauer as one of its members. He contributed much to committee deliberations, fostered careful study of proposed projects, strived diligently to bring agreed upon projects to successful completion, and fought consistently for high standards in publications. Since the expiration of this period of membership, the Committee still seeks his valuable help and wise counsel.

Through his activities with the A.A.S.A. and the Joint Committee, Dr. Bauer has increased educators' understanding of medical viewpoints, and through his work with the A.M.A. and its state, county and local sub-divisions, he has helped physicians understand the viewpoints of educators. At meetings with physicians throughout the country, the purposes and scope of school health programs have been interpreted to physicians by Dr. Bauer producing increased cooperation between practicing physicians and school health workers.

If he had done none of the things just mentioned we would still honor Dr. Bauer for his leadership to the team which composes the A.M.A., Bureau of Health Education. It was his vision that resulted in the appointment to his staff of a physician and two educators as consultants in health and fitness, namely, Donald A. Dukelow, Fred V. Hein, and Wallace Ann Wesley. And it was he who chose William A. Bolton as associate director of the Bureau. By selecting such capable persons and making them available for consultation by medical societies, schools, and health departments, Dr. Bauer has made noteworthy contributions to school health.

Most of you are familiar with the biennial conferences on "Physicians and Schools" organized by the Bureau of Health Education and held at Highland Park. These conferences, multi-disciplinary in nature, command the respect, admiration and support

of physicians, educators, and public health officials and have resulted in increased cooperation among these professions at national, state, and local levels. They reflect the leadership of Dr. Bauer and his staff.

Dr. Bauer, we admire your abilities, respect your judgment, appreciate your counsel, and value your friendship. In behalf of the American School Health Association, and with great personal pleasure, I am happy to present to you, the William A. Howe Award for 1958 in recognition of your outstanding contributions to school health.

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HOW FIT IS FIT?*

W. W. BAUER, B.S., M.D.
Director, Bureau of Health Education
American Medical Association

In rising to accept the splendid honor which you have conferred upon me, I feel that my first obligation is to explain to you why this Citation was given to me. I feel quite certain that even those who gave it do not know.

I am deeply sensitive to the distinction of being linked with the name of the most illustrious pioneer in the school health field. It was my privilege to know Doctor Howe slightly in his later years and to feel the loss which his passing brought upon his colleagues, his comrades, and his followers. There are not many others here tonight whose memories go back quite so far, but I am sure that through the years, the memory of Doctor Howe has been kept alive in these meetings. This is as it should be.

A lot of people have a part in it when a man gets an award. I know the conventional disclaimer which says, "I am unworthy of this honor," and "It should have been given to my colleagues." I would like to put that old cliché in just a little bit different light. I would like you to know just how my colleagues have contributed to the conferring of this Award upon me. You very seldom hear the name of my Associate Director in the Bureau, Dr. Bill Bolton, who is a wizard at picking up facts and answering $64,000 questions. You may not be aware that Don Dukelow has one of the greatest talents I have ever seen for knowing many people and making friends with them. I am sure that you could realize only through day to day contact that Fred V. Hein, Ph.D. is ethically more medical than any doctor. And in the short time that she has been our colleague, we have benefited enormously from the outgo-

*Read at the 32nd Annual Meeting of the American School Health Association, St. Louis, Mo., October 29, 1958.

ing and all-embracing love of people, which is the shining characteristic of Wallace Wesley.

I have in the person of Sylvia Martin, my office "boss," an invaluable guide, philosopher, friend, and "nagger," without whom I would be missing many of my opportunities and obligations. I have a tall, blonde, and cheerful gal named Audrey Lucas, who keeps me traveling as happily as travel can be accomplished these days. And I have a staff of hard-working, cheerful, companionable and loyal people in my office who do most of the hard work while I stand before you and receive the accolade.

Add to all these the incentive of continuous competition at home from a wife who is actress, dramatic reader, playwright, novelist, and a profound student of history and Biblical archeology, it is plain to be seen that Bill Bauer has had to run frantically just to keep pace.

To all these people to whom this honor belongs, I give my most heartfelt thanks. And now to the question, "How Fit is Fit?"

Discussion has waged, not to say raged over the topic of fitness during the past two or three years, ever since it was alleged that the children of these United States are soft, unfit, with muscles like custard and generally inferior to the children of Europe. I will not say that anyone has come to blows over differences of opinion, but I will say that there has been some hard blowing in certain quarters. There has been, indeed, a great deal of fuss and fury and considerably more heat than light. I hope, therefore, to try to attain a high level of calm objectivity in looking at the question of who is fit, and how do we know it?

Confusion has arisen between the concept of health and of fitness. Are health and fitness the same thing? Can one be healthy and not fit? Can one be fit and not healthy? You may find yourselves in the position of the professor whose wife found him kissing one of the prettier graduate students. "John," she said, "I am surprised." "No, my dear," he answered, *You* may be astonished, but it is *I* who am surprised."

So you may be a little startled by some of the things I am going to say, but after a good dinner that may not be too unwholesome a way to keep you alive and kicking. Especially kicking.

I do not believe that health by itself constitutes fitness. Health can be either something passive or something dynamic. One may be healthy in a languid sort of a way, free from disease, suffering no pain, able to carry out a day's work and even to have a little fun if one's interest can be sufficiently stirred. There might even

be in such a pallid type of good health a sufficient reserve to meet an emergency if one should be encountered. This is essentially the concept of good health which emerges from all the numerous definitions.

Fitness, on the contrary, is something inherently dynamic. It is hard to imagine a passively fit individual. Physiology tells us, and so does common sense, that inactivity breeds deterioration. We know from the experience of physicians in diseases such as stroke, that inactivity of the patient does more injury than activity, even after the cerebral accident.

The body loses its vital chemical elements; the muscles dwindle; the nerve functions deteriorate; stiffness, rigidity, and paralysis increase. A judicious program of exercise, beginning almost immediately after the acute cerebral accident, usually assures a patient much better function despite sometimes considerable brain damage.

All physical educators know, of course, that training and conditioning improve performance. Muscle sizes increase, the heart action becomes stronger, deeper, slower, and more steady; the nerves acquire special skills; endurance is increased, and the individual is converted from a sufficiently healthy but untrained specimen into a person eminently fit for a specific or a general program of activity.

There can be no question that good health contributes to fitness. Adequate rest and sleep; the ability to relax, and to recreate; a satisfactory state of nutrition; and a well-adjusted outlook on life — all these help in the achievement of fitness. Indeed, they point up the broader concept of fitness which transcends mere physical activity. This is the all around fitness which embraces not only the physical but the mental, moral, spiritual, and social fitness of the individual.

In the current emphasis upon the physical, there is danger that these other aspects of fitness will be overlooked. The excuse or the reason given for strong emphasis upon the physical, is that this is more needed than are any other phases of development toward fitness. Conceding the need for more activity, I would be inclined to question whether we do not need equally a stronger emphasis upon emotional, spiritual, social, and moral fitness.

In a troubled world, threatened with imminent disaster, there is the utmost need for emotional fitness if one is to look upon the immediate present and the unforeseeable future with at least some degree of tranquility — without drugs, and confidence — without

stimulants. In a crime-ridden world and one in which ethical standards, honesty in government, and integrity between man and man are so sadly lacking, there is need for serious attention to the spiritual condition of our people. There is bitter irony rather than humor in the cartoon figure of one man stabbing another in the back, and saying, "Sorry, Charlie, but business is business."

As for moral fitness, we have only to look upon the American scene with its scandalous divorce situation, its casual attitude toward the fundamental moralities, its record of abortions, and the growing problem of illegitimacy to be convinced that we need something more than we have in the way of moral fitness. In the social order, we see too many evidences of need for a higher regard for the welfare of our fellow men and less selfishness in grasping what we can for ourselves.

The needs for progress toward fitness are about equal in all the areas of total fitness.

We come now to the question of "What *is* fitness; how fit is fit?" Here I would like to examine first the question: can there be fitness in the absence of good health? In calling the roll of historic personages, one need only mention a few of the outstanding individuals who achieved greatly in the absence of good health. According to our commonly accepted standards of good health, we would hardly have included Alexander the Great, who died of gall bladder disease at the age of 33 with no more worlds to conquer. We would exclude Lord Byron with his epilepsy and his clubfoot. We definitely would not accept the celebrated epileptic, Julius Caesar. We would brand as unfit Admiral Lord Nelson, who had but one arm and one eye, yet defeated the enemies of England at Trafalgar.

Certainly Abraham Lincoln, with his black moods of depression, would never have qualified as a healthy individual. Florence Nightingale was sickly in the conventional 17th century feminine manner, and yet she bearded the admirals at Scutari in their cabins and made them do her bidding. Whether one admires him or not, one cannot exclude Franklin Delano Roosevelt from the list of historic personages who came to high achievement despite the lack of perfect health. We have in the Presidency of the United States today a gentleman who has risen above serious illnesses to perform the *exacting* duties of the world's highest office. Chopin's tuberculosis and Beethoven's deafness did not prevent them from making great music. Stephen Foster, the alcoholic, composed unforgettable songs which have become part of the American tradi-

tion. Robert Louis Stevenson battled tuberculosis while creating stirring tales of adventure and poetry of rare charm.

This historical list could be extended almost indefinitely, but I would much rather turn to evidences nearer home. It can easily be argued that these great names in history belong to individuals who had not only handicaps, but also extraordinary equipment enabling them to overcome disease and defeat, to rise above illness, and to achieve the heights. Therefore, don't look *now!* — I would rather have you look about you in this very room. Indeed, look at yourself in the mirror of your mind.

Who within range of my voice has perfect health? I suspect that you will find in this room persons with damaged hearts, with allergies, with digestive difficulties, with skin diseases, with emotional problems; perhaps some who have fought and conquered tuberculosis and some who are still battling with such chronic diseases as diabetes, high blood pressure, kidney disease, and even malignancies. And yet, you have achieved. You would not be here if you had not. You have achieved because you had in your personality a balance in favor of achievement. You had, despite the handicaps imposed upon you by health deficiences, an indefinable quality, a something which makes for the ability to succeed. This is the unknown, the priceless ingredient in fitness. It is an ingredient that cannot be measured.

And that brings me to the subject of tests and measurements. There have been insistent demands, not to say clamorous outcries from certain quarters, for a series of exercise and achievement tests which will measure the fitness of an individual. There has been grave doubt in many minds whether such a battery of tests can be constructed in a manner which will constitute a true measure of fitness.

I can see the possibility of making tests which will measure *physical* performance. Such tests have been devised by physical educators and research scientists in a number of different localities, and some of them have met with considerable approval in their practical application. The physical capacities and performance capabilities of an individual can certainly be measured. It would, however, be the height of fallacy to assume that such a measurement of physical strength, endurance, and agility is any criterion of the total personal fitness of an individual to meet the challenge of living.

There have been demands too for the federalization of testing standards and for their routine, periodic application to all young

people. This is part of a hue and cry for making the President's Council on Youth Fitness into a federal operating agency with the status of a governmental department, a budget and all the trapping of bureaucracy. This demand has thus far, I believe wisely, been resisted by the Council. If the Council is to persist in this course, it warrants, needs, and should have the support of people who do not desire to see a federal bureaucracy directing a regimented program of activity by goose-step. If American youth is to have more activity, let us give it to them through wholesome play, through friendly competition, and free choice of sport in the traditional American way.

The federalization of standards would be a first step toward the federalization of the entire program, which belongs in the hands of people like you, working at the local level where the young people are in whose health, welfare, and fitness we, as educators and physicians, are deeply concerned.

If we cannot measure fitness by any prescribed set of physical tests — what then is the measure of fitness? We cannot answer this question until we have answered another, namely, for what purpose do we desire fitness? Each person has his own individual aims. Some seek scholarship; others strive for success in business or the professions; some enter the service organizations, such as the ministry, social service, public health, or teaching. Some go into professional sports and some enter the arts. These are but the superficial goals in life. They are desirable goals and not to be despised, but they are far from all of life.

Recently President Eisenhower was described in our health magazine, *Today's Health*, as taking pride in his greatest achievement, namely, his success as a father. To be loved by our relatives because we are lovable and not merely because we are related; to be esteemed by our co-workers because we are estimable not merely because they are polite; to be valued by our contemporaries because of our worth and not because of the conventions; to be mourned when we are gone because our absence is a real loss and not merely because it is traditional to speak well of the departed— these are the real objectives in living. These are the real measures of fitness.

No one has ever expressed the measure of fitness any better than Rudyard Kipling in his poem entitled "If." *If* it were not for the strict copyright limitations exercised by the poet's estate, I would quote some of this poem to you. Instead I suggest that you read it; you will find it in any anthology of Kipling.

And now may I return to the matter of the Award, which was in a way a double-barreled affair. It was an honor to me; it was to you a sentence to thirty minutes of listening to the recipient. I would not close these remarks without expressing a feeling that I have long had in relation to recognition for achievement, contributions, or just hard earnest effort. In the last few years, I have seen important awards given either posthumously or to individuals in such poor health and condition that their acceptance constituted a pathetic spectacle.

On the facade of the Archives Building in Washington is carved the inscription: "The Past is Prologue." All that we have done in the past is but preliminary to what we are doing now and what we shall do in the future. It is my hope that my own personal usefulness is not ended even though I am no longer young. This Award comes to me as a stimulus and a refreshment. It is an incitement and an urge to new effort and to better work.

I lay before you in closing the suggestion that in considering this award and others in which you may be concerned, you give thought to the honoring of younger men and women for whom there is a greater future. The status of an Award begins with the organization which creates it and the individual for whom it is named. Its ultimate value rests in the achievements of those who have received it. It might be very constructive to use this Award as an incentive more than as an accolade.

And so again, I give you, for myself and for my colleagues to whom I am indebted for the honor you have done me tonight, my deepest and most heartfelt thanks, my best wishes for the future, and my pledge to keep on working as long as there is in me any remaining fitness.

I should like to mention in closing one of the great historical characters who rose above his infirmities. He suffered imprisonment, shipwreck, want, and persecution, but he never wavered. The Scriptures do not tell us in detail about the physical infirmity of the Apostle Paul, describing it only as "a thorn in the flesh." Paul prayed not for deliverance, but for the fortitude to bear his burden. And for those who were beset as he was he had this word which I should like to leave with you:

> "For we wrestle not against flesh and blood but against principalities, against powers, against the rulers of the darkness of this world, against spiritual wickedness in high places.
> "Wherefore take unto you the whole armor of God that ye be able to withstand in the evil day and having done all—to STAND." (Ephesians 6:12, 13)

NATURE AND FREQUENCY OF ACCIDENTS AMONG ELEMENTARY SCHOOL CHILDREN IN NEW YORK STATE*

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Introduction: The protection of children from serious accidents and the conservation of the health of pupils have long been recognized as among the school's primary responsibilities.

This principle was adopted as one of the goals set up in the Children's Charter by the White House Conference of 1930 under the leadership of the President of the United States and has increasingly gained recognition in schools.

The tremendous toll of accidents, including death, physical and mental suffering and financial losses, has focused the attention of many official and voluntary agencies on this acute problem. However, since the school is the community's most effective agency for educating all children, it must assume a major role in education for safe living. Of primary importance in this responsibility are the development of a safe school environment with constant supervision thereof and the development of practices and attitudes conducive to safe and healthful living in the school, home, and community.

Need for Survey: During the school year of 1951-52 and 1952-53, the Division of Health, Physical Education and Recreation held sixty-four area conferences throughout New York State. These meetings were held for administrators, teachers, board of education members, and parents in order to discuss problems in health and safety, physical education and recreation. Many of the topics that were submitted for discussion were in regard to the safety of pupils. Some of the problems were the following:

1. What playground apparatus is desirable for pupils of the elementary school?
2. Should asphalt or a more resilient material such as sand or sawdust be used underneath playground apparatus?
3. Where do most of the elementary school accidents occur?
4. When do most of the elementary school accidents occur?

Purpose of Study: The purpose of this study was to determine by a survey of a selected sample of schools of New York State the nature, frequency, and the contributing factors of accidents among elementary school children.

*Presented before the Third General Session, American School Health Association Section on October 30, 1958.

Limitations of Survey: For the purpose of this survey, the study was limited to 92 public schools of the State with no elementary schools of New York City being represented. Only those schools housing elementary grade children and having an average daily attendance of more than 100 pupils were included.

The study was confined to accidents that occurred within the school building or on the school grounds during regular school time or in a school activity supervised by a teacher, supervisor, or administrator before or after regular school hours. The only accidents reported were the ones that occurred to children who had a follow-up or referral after first aid was rendered.

The data were collected for a period of eight months of the school year 1954-1955, extending from October 1, 1954 to May 31, 1955.

How Data Were Obtained: The desired information was obtained by the use of a survey instrument which consisted of four forms:

1. *Form A.* The accident report form supplied the information of factors directly related to the accident.
2. *Form B.* The directions for completing items 6 to 17 on Form A so that information received on Form A would be uniform.
3. *Form C.* The survey form furnished information in regard to the factors contributing to accidents.
4. *Form D.* The monthly exposure report form supplied the number of exposures* to the physical education program (class instruction and extra-class program) and playground apparatus during a month.

Uniqueness of Study: Meeting places were planned throughout the State where the State Supervisor could meet with persons working with the various forms of the survey instrument. Personnel from three or four schools met at one center for the purpose of reviewing every item on the four forms so that there would be no question as to the desired information requested. These small group discussions were more effective than either the individual interview or mailed survey instrument.

In addition to frequency of accidents, the number of exposures in school, in the physical education program and on playground apparatus were obtained. With these numbers available it was possible to figure the accident rates for the various activities and to make comparisons. Without numbers of exposures, accident numbers do not really give much information. For example, to say that there were thirty accidents that occurred in the game of basketball does not really have much meaning. Were there 30

*Exposure refers to the number of pupils in a class or group participating in an activity during a school day. This definition assumes all children within class or group have an equal chance of receiving the injury.

accidents out of 30 exposures or were there 30 accidents out of 300,000 exposures?

Conclusions: The conclusions of this study are based on the findings of the analysis of all the survey forms that were returned by 92 schools. It was found that there were 524 accidents reported with 6,720,808 exposures in the 92 schools during the survey period. This means that the average number of accidents in the 92 schools was 7.8 per 100,000 exposures. In other words, a class of 30 children could attend school every day for three years before some time in the third year one youngster would be injured to the extent that he would require followup treatment or referral to the family physician. These findings indicate that the public elementary schools are providing a safe school environment for our children.

Factors directly related to accidents: The greatest number of accidents occurred during the months of May and October when there were 172 accidents or approximately 33 per cent of the total. This may be due to the fact that the climatic conditions are such that during these two months children may be participating in vigorous outdoor physical activities. The fewest number of accidents were reported during the month of February when only 49 cases were reported, or approximately 9 per cent of the total.

The fifth grade had the greatest number of accidents for any single grade with 94 recorded while the intermediate grades reported an aggregate of 247 accidents, or approximately 48 per cent of the total. The special class pupils had only three accidents which would be reasonable to expect since only a very small number of pupils in this class were included in the survey.

The third and fifth grades had the greatest number of accidents for both boys and girls with a total of 118 for boys and 66 for girls. The total number of accidents for boys in all grades was 340 while for girls in all grades was approximately one-half of this number, or 184. Other related studies reported similar findings with approximately twice as many accidents occurring to boys as girls.

There is a very high positive relationship between boys and girls in the matter of frequency of accidents occurring from age to age and grade to grade.

The part of the body most frequently injured was the head, with 176 cases, or approximately 32 per cent of the total. Other studies also reported that this part of the body is the most frequently injured among elementary school children.

The wound was the most frequent type of injury with 218 cases, or 40 per cent of the total number. The wound, bruise, and fracture were the three most common types of injuries contributing 461 cases, or approximately 85 per cent of the total number.

The morning and noon were the times when most of the accidents occurred. During these two periods of time there were 354 accidents, or approximately 68 per cent of the total number. There were 371 accidents, or approximately 71 per cent of the total, that resulted in no days lost from school. There were 485 accidents, or approximately 93 per cent of the total, that resulted in the loss of two or less school days. It appears that most of the accidents that occurred were not serious enough to cause long periods of absence from school.

Most of the accidents occurred on the playground and in the gymnasium. These two places accounted for 337 accidents, or approximately 64 per cent of the total. Other related studies reported similar findings in regard to place of accident occurrence. This may be expected because of the nature of the vigorous physical activities that occur in both of these areas.

The most serious accidents, as determined by average number of days absent from school, occurred at the bicycle rack area, stairway, athletic field, doorway, and school sidewalk. Although there is a fairly high positive relationship between frequency and seriousness of accidents it should be noted that the gymnasium and playground which rank second and first in number of accidents rank sixth and seventh in regard to severity of injury.

The largest number of accidents occurred to pupils during free play when there were 226 cases reported, or approximately 43 per cent of the total. Due to the nature of the free play period in the public school, it may be expected that the most accidents would occur at this time. This period is characterized many times by the freedom of choice in activities, the lack of direct supervision for all activities, and the large numbers of pupils in one area.

The class period and the noon hour period accounted for 346 accidents, or 66 per cent of the total. During the recess play period approximately 18 per cent of the accidents happened while approximately 4 per cent occurred during the lavatory period. It may be expected that many of the accidents would occur during the class period because the greatest portion of pupils' time is spent in a class situation of which a portion of this time is spent in vigorous physical activities. It may be expected that many accidents

would occur during the noon hour and recess play period because of the large number of pupils and the free play that frequently characterize these two parts of the program. The number of accidents during the lavatory period may be due to the remoteness of the toilet facilities from the classroom and the lack of direct supervision by the classroom teacher.

There were 149 accidents, or approximately 28 per cent of the total, that happened because of an interrelation with other pupils. Of these accidents, the greatest number were caused specifically by one pupil colliding with another pupil. There were 144 accidents, or approximately 27 per cent of the total, with either equipment or supply being involved. Of these accidents, the greatest number were caused specifically by a pupil being struck by piece of equipment or supply. There were 131 accidents, or approximately 25 per cent of the total, that were caused by the physical plant. Of these accidents the greatest number were caused specifically by a pupil slipping on the floor or ground.

Accidents in the physical education program. The intermediate grades had the highest accident rate in the physical education class instruction program. The fifth grade had the highest accident rate with 7.5 accidents per 100,000 exposures.

The specific activity of wrestling had the highest accident rate with two accidents in 532 exposures, or a projected rate of approximately 376 accidents per 100,000 exposures in the total elementary grades. In the general categories of the physical education class instruction program, the activity of games had the highest accident rate with 4.7 accidents per 100,000 exposures. This was followed in order by stunts and tumbling, gymnasium apparatus, rhythms and dance, and body mechanics. Swimming with no accidents reported for 1,813 exposures had the lowest accident rate of the general categories.

It appears that most of the physical education class activities in elementary schools are not hazardous and that schools are providing a safe physical education program. The only activity that seems to be hazardous for elementary school pupils is the specific activity of wrestling. Although there were only 5,327 exposures to the extramural activities, this part of the program appears to be much more hazardous than the class instruction program and the intramural program.

Accidents on the playground apparatus. The fourth grade had the highest accident rate on the playground apparatus with 2.9 accidents per 100,000 exposures. The fifth and sixth grades had

the lowest accident rates. The giant stride had the highest accident rate with three accidents in 3,020 exposures, or a projected rate of 99.3 accidents per 100,000 exposures. The teeter had the next highest accident rate with two accidents per 100,000 exposures in the total elementary grades. This was followed by the climbing structure, slide, and swing with the rate of 1.9 accidents per 100,000 exposures for each piece of apparatus. The hanging bar had the lowest accident rate with no accidents reported for 199,104 exposures.

It appears that the use of all of the playground apparatus except the giant stride is relatively safe. The developmental apparatus such as the climbing structure, rings, hanging ladder, and hanging bar had a lower accident rate than the recreational apparatus such as teeter, slide, swing, and merry-go-round. The fifth and sixth grade pupils do not appear to be as interested in using playground apparatus as much as the pupils in grades kindergarten through fourth.

Contributing factors related to accidents. The schools that housed both elementary and secondary grade pupils in the same building had the highest accident rate with nine accidents per 100,000 exposures. The schools that housed pupils in both the primary and intermediate grades in the same building had the next highest accident rate. The schools that housed only the primary grade pupils had the lowest accident rate.

There were 32 schools that offered two or more activities during the noon hour. The schools that had unorganized play and organized free play for noon hour activities had the highest accident rate. The schools that had organized free play and directed organized play had the lowest accident rate.

The schools that had dirt under their playground apparatus had the highest rate for accidents caused by falling while the schools that had sand under their playground apparatus had the lowest rate for accidents caused by falling. The schools that had asphalt surfacing or dirt under their playground apparatus had the highest rate for all types of accidents while the schools that had sand under their playground apparatus had the lowest rate for all types of accidents.

It appears that the schools that housed only the primary grade pupils were the safest. The number of acres on a school site did not seem to have any relationship to the number of accidents reported by the schools. The number of years of teaching experience did not seem to have any relationship to the number of acci-

dents reported by the schools. The schools that used a principal, head teacher, or other special teacher to supervise the noon hour activities had the fewest accidents. The schools that have directed organized play for the noon hour program seem to have the lowest accident rate. It appears that the most desirable surfacing to have under the playground apparatus is sand.

RECOMMENDATIONS

In the light of the findings of this study, it is recommended that:

1. New schools for elementary pupils be constructed to house only elementary grade pupils.
2. Schools should employ only certified personnel for the teaching or supervising of any activity.
3. During free play periods, the number of pupils in any one area should be restricted and carefully supervised.
4. New elementary schools should be planned to be constructed on one floor.
5. Elementary classroom teachers should do a more thorough job of supervising stairways and better teaching of the correct use of stairways.
6. Primary grade units in new elementary schools should be planned with toilet facilities to the classrooms.
7. Elementary classroom teachers should do a more thorough job of supervising toilet facilities and better teaching of the correct use of toilet facilities.
8. The number of pupils participating in a class of physical education should be the same as the number accepted as being desirable for a regular classroom unit.
9. Teachers should make sure they teach elementary school children how to use equipment and supplies safely.
10. All playground apparatus should have some resilient material such as sand underneath it.
11. All areas where noon hour avtivities are offered should be properly supervised.
12. The noon hour program in elementary schools should consist of directed organized play or organized free play or both.
13. Elementary schools should consider hiring additional certified personnel who are not regular teaching staff members to handle the noon hour activity program.
14. A similar study should be made analyzing the accidents that occur in the junior high school grades.
15. A similar study should be made analyzing the accidents that occur in the senior high school grades.
16. A study should be made to determine the nature, frequency, and contributing factors of accidents that occur in school transportation.
17. A controlled study should be made in junior high school grades to determine the nature, frequency, and contributing factors of accidents occurring in the intramural and extramural programs.

* * * * *

NEWS

RESEARCH FELLOWSHIPS

U. S. Department of Health, Education and Welfare, Public Health Service, National Institute of Health, Bethesda, Maryland, and the National Science Foundation, Washington 25, D. C., are both offering attractive research fellowships. They will send information on request.

CHILDHOOD ACCIDENTS*

JAMES L. GODDARD, M.D., M.P.H.
Chief, Accident Prevention Program, Public Health Service
U. S. Department of Health, Education, and Welfare

The Accident Prevention Program of the Public Health Service has, of necessity, devoted a considerable portion of time, during its first two years of operation, to the definition of problems.

We have attempted to establish profiles of the major situations in this area which lend themselves to the public health approach.

With the aid of a few slides and — I hope — not too many words, I should like to draw such a profile for you today, a profile of the problem of childhood accidents.

Chart No. 1 shows a striking alteration in the relative importance of accidental deaths in the United States during the last half-century. The dotted line shows a very steep climb over the past 55 years. This represents teen-agers and young people (15 through 24). Over half the deaths in this age-group in 1955 were accidental; at the turn of the century only one death in ten in this group had been accidental. Another significant increase is in the 5-through -14 age group, where the proportion of accidental deaths has quadrupled since 1900. In the 1-to-4 age group the proportion has actually jumped to 8 times the 1900 ratio (light line).

In short, the three greatest increases reflect drastic changes in the pattern of causes of death among children.

Does this mean that since 1900 (and especially since 1935) accidents have overwhelmed the children of this country like a Medieval plague?

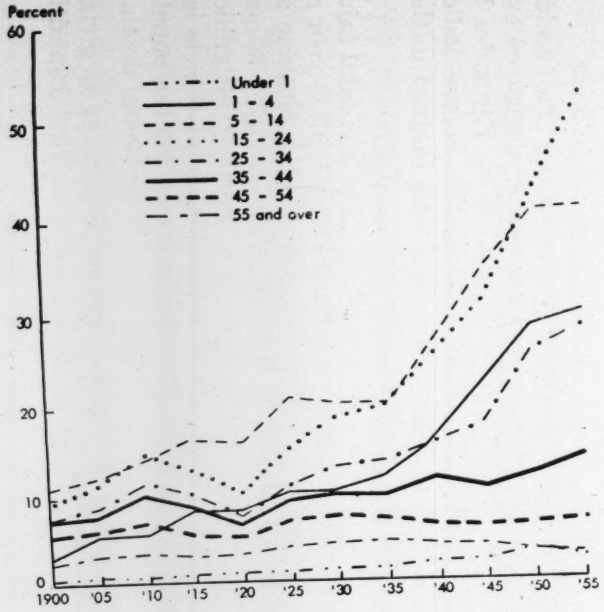
Not quite. We are dealing in *relative* changes. While accidents were 8 times as significant a cause of death in the 1-through-4 age group in 1955 as in 1900, chart No. 2 shows that the *actual* accident death rate for the 1-to-4 group was roughly cut in half during that period.

Observe the ski-slope formation of the line representing diphtheria, or the line marked "gastritis, duodenitis, etc." The descent of the "influenza and pneumonia" line has been almost as abrupt. Much the same is true of tuberculosis.

In short, the reduction in infancy death rates in the 20th century has been so phenomenal that the mere 50 percent drop registered by accidents is scarcely noticeable.

* Address prepared for delivery at the Annual Meeting of the American School Health Association, St. Louis, Mo., October 29, 1958.

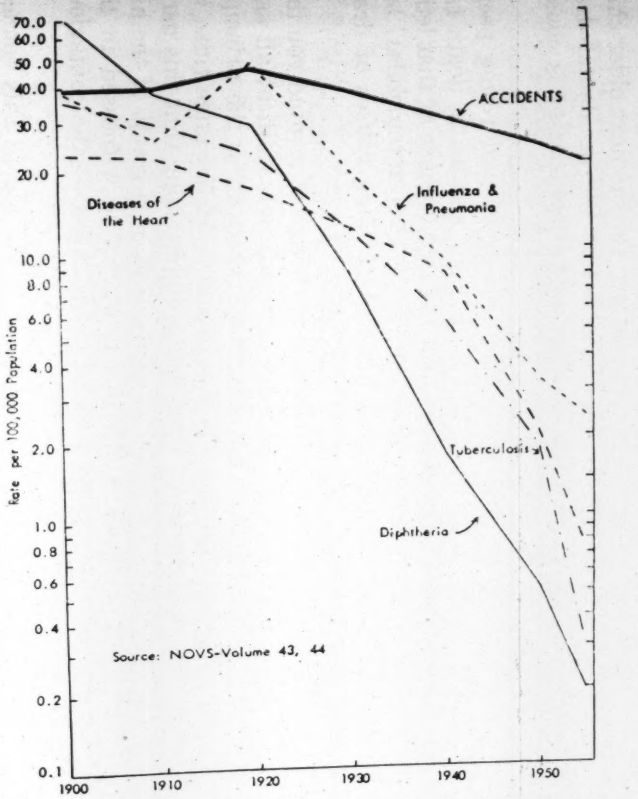
ACCIDENTAL DEATHS AS PERCENT OF ALL DEATHS
by Age Groups
Continental United States 1900–1955



Source: Basic data from National Office of Vital Statistics

ACCIDENT PREVENTION PROGRAM

DEATH RATES FROM THE FIVE LEA...G CAUSES OF DEATH IN 1900
AMONG PERSONS 5–14 YEARS OF AGE
Continental United States 1900–1955



ACCIDENT PREVENTION PROGRAM

Chart No. 3 reflects a similar pattern for the next older childhood age group. Here the improvement in the accidental death rate is less marked but the contrast with other causes is equally conspicuous.

Chart No. 4 demonstrates that teen-agers and young people (15-24) constitute an exception, in that the accidental death rate has actually risen slightly since 1900 (mainly because of that lethal blessing of 20th century American life — the automobile), but, again, the dramatic decline in the other leading causes of death as of 1900 is clear.

To sum up the mortality data, it is enough to remind you that accidents could scarcely be the leading cause of death at all ages from 1 to 35 without at the same time constituting the principal cause of death in childhood in this country. At the same time, we must preserve a sense of proportion by emphasizing that this paramount position of accidents has come about as a result of the history-making triumphs which this century has witnessed in the war against those ancient enemies of childhood — the contagious diseases.

Accidents have not literally risen to the top in this connection; they have been uncovered, as rocks are uncovered by receding waters at low tide.

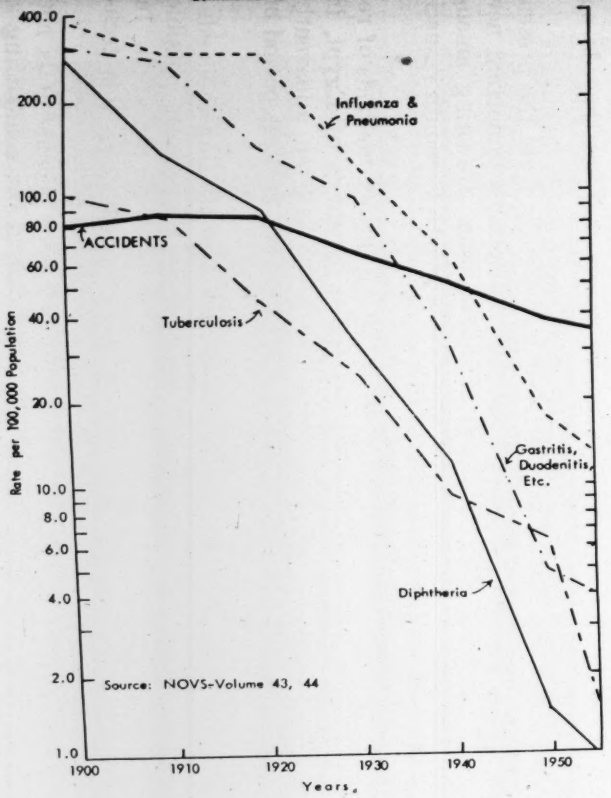
Like the rocks, they are no less real because they have recently been revealed. It is no less our duty to cope with them.

Death is not the only possible consequence of an accident. Far too many children are crippled, maimed, or disfigured every year as a result of injuries caused by accidents. Estimates based on the first 6 months of the National Health Survey indicate that some 17 million children sustain accidental injuries in the United States annually.

I should like to tell you something about non-fatal injury rates for children under 15. The first thing I would call to your attention is chart No. 5, which shows the predominance of home accidents as a source of injury with this age group (roughly 60 percent of all accidents). The motor-vehicle is a relatively insignificant factor. I should mention in passing that the motor-vehicle is not the major source of non-fatal accidental injury for the population as a whole, though it *is* the leading cause of accidental death.

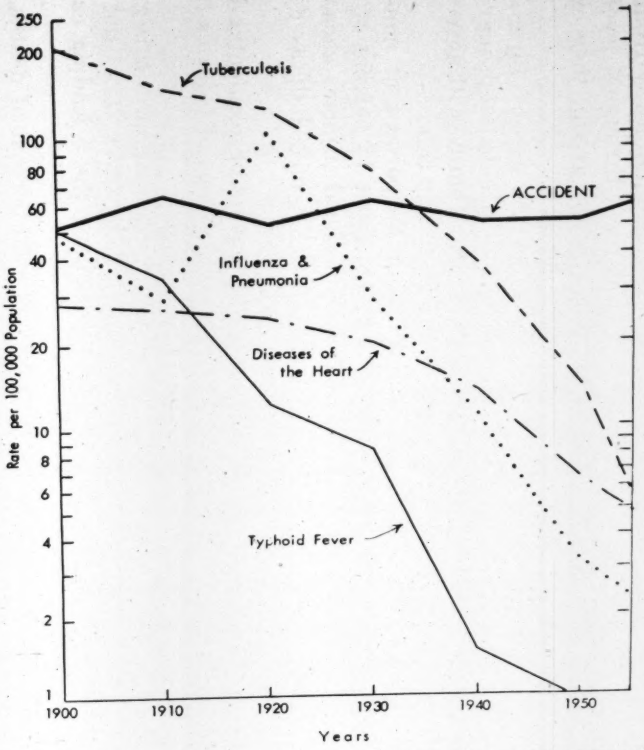
Boys have twice as many accidental injuries as girls, owing, no doubt, to the more adventurous nature of boys' dispositions and pastimes.

DEATH RATES FROM THE FIVE LEADING CAUSES OF DEATH IN 1900
AMONG PERSONS 1 - 4 YEARS OF AGE
Continental United States 1900-1955



ACCIDENT PREVENTION PROGRAM

DEATH RATES FROM THE FIVE LEADING CAUSES OF DEATH IN 1900
AMONG PERSONS 15-24 YEARS OF AGE
Continental United States 1900-1955



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In chart No. 6 we see that boys begin to pull away from girls in vulnerability to accidental injury at the 1-through-4 level, and that, when they reach the 10-through-14 age group, they experience almost 3 times as many injuries as girls.

The discouraging fact is that, under the age of 15, about 4 out of every ten boys suffer some sort of accidental injury each year. Those of you who have boys in your family will agree that to parents the rate often seems even higher than this.

It could, however, be worse. While 30 percent of non-fatal injuries occur in children under 15, only about 15 percent of fatal accidents happen in this age-group. Childhood injuries caused by accidents are far too plentiful but they are only half as deadly as they might be, if that is any comfort to us.

Chart No. 7 contrasts the principal causes of accidental death among children under 15, with the leading causes of injuries treated in hospitals for accidents.

Almost 4 out of every 10 cases of hospitalization in this group resulted from falls. The *deaths* from fall, however, were not frequent enough even to be represented among the 5 leading causes of death.

Motor-vehicle accidents caused some 30 percent of deaths, but only about 6 percent of the non-fatal injuries resulted from motor-vehicle accidents.

Drownings caused 13 percent of the deaths, but they do not appear in the "treated at hospitals" section.

This may be a good time to digress slightly from the presentation of statistics for a brief discussion of a most important new development in the prevention of deaths from drowning among children. I refer to the new-old method of mouth-to-mouth resuscitation of drowning victims.

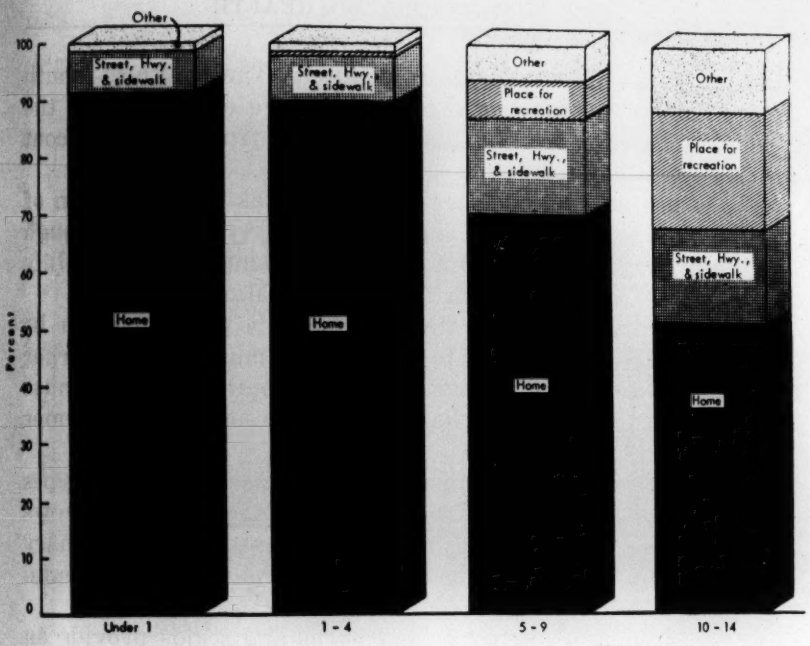
It is new because it is rapidly replacing former methods of resuscitation. It is, however, as old as the pyramids of Egypt, in that the possibility of "breathing life back" into an apparently lifeless body has been understood from the very earliest period of history.

Organizations active in the rescue field are altering their educational and training programs to promote the widest possible understanding of the mouth-to-mouth method of resuscitation. In all cases special instruction will be given in adapting this technique to cases of childhood drownings.

I believe this news is worth stressing here because it is not often that we acquire an effective new weapon for combatting a

Chart V

ACCIDENTAL INJURIES* BY AGE AND PLACE OF ACCIDENT
July 1957 through June 1958



*Treated in hospitals in one northeastern U. S. city.

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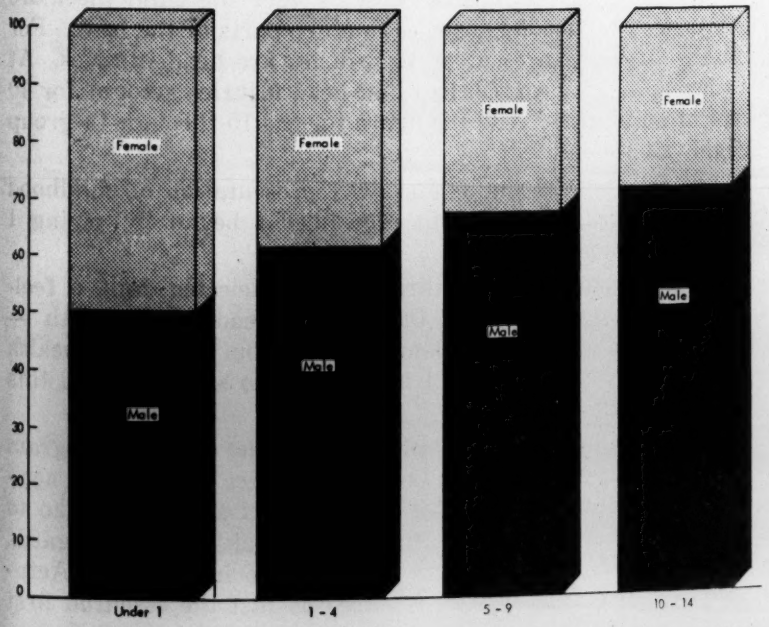
Division of Special Health Services
November 1958

Chart VI

ACCIDENTAL INJURIES* BY AGE AND SEX
July 1957 - June 1958



*Treated at hospitals in one northeastern U. S. city

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major cause of accidental death in children. The mouth-to-mouth method has been demonstrated to be far more effective than the techniques that have been familiar to all of us from our Boy Scout (or Girl Scout) days.

To return to the profile, seasonal variations in the pattern of childhood accidents are quite similar at all ages from 1 through 14. This is shown in chart No. 8. There is a summer peak in July and August, and a winter low in February and March.

One moral which can be drawn from this pattern might be that any child — from toddler to teen-ager — must have a sharper parental eye kept on him in the summer than in the winter because of the increase in accident hazards that accompanies warmer weather.

Chart No. 9 depicts the relative importance of certain types of primary injury resulting from childhood accidents. It shows that lacerations constitute the most prominent type of primary injury. From 1-through-9, indeed, just about half of all accidental injuries involve lacerations.

Another point of interest is that burns and scalds provide an appreciable proportion of all primary injuries below the age of 1 year but are not important enough to be charted above that age.

We see by chart No. 10 that injuries to the head are a major problem in childhood accidents. The younger the child the more head injuries over-shadow injuries to other parts of the body. For the under-1 age-group 6 out of 10 injuries are head injuries. At the 5-through-9 level we still find that head injuries account for 40 percent of all injuries. And the figure for the 10-through-14 group is roughly 22 percent.

This may impress you as a sketchy presentation of childhood accident statistics, but you will remember I began by saying I wished to draw a profile.

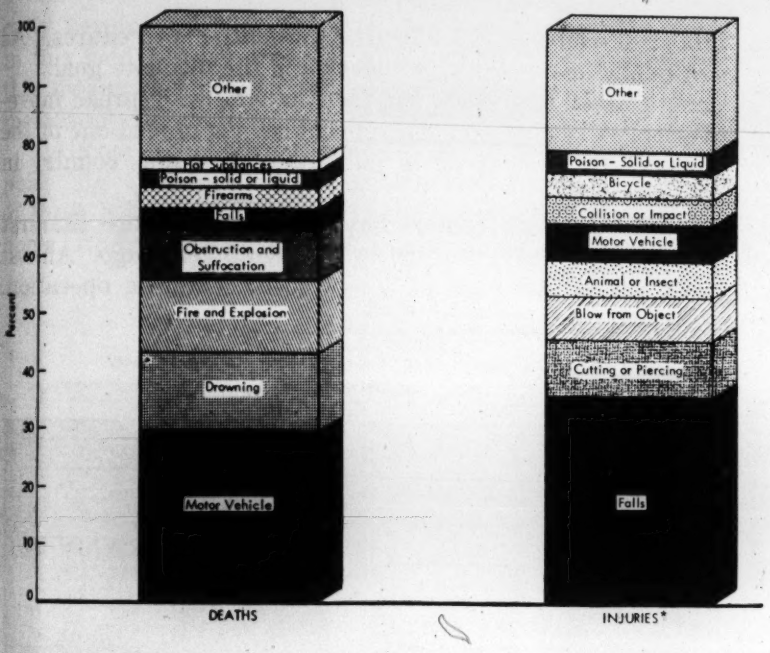
If I have communicated, through these selected data, a feeling for the general outline — the length, breadth, and depth — of the childhood accident problem, as seen from the public health point of view, then that is all I have hoped to accomplish in this short period of time.

May I close by telling you a little about one concrete program that is coming to grips with an important aspect of childhood accidents, the problem of accidental poisoning? I should not like to leave you with the feeling that the Public Health Service regards delineation of the problem as its sole function in this field. Actually we look upon that type of research as just the essential first

Chart VII

LEADING CAUSES OF ACCIDENTAL DEATHS COMPARED WITH LEADING CAUSES OF ACCIDENTAL INJURIES

Persons Under 15 Years of Age



*Based on data collected in one northeastern U. S. city, July 1957 - June 1958

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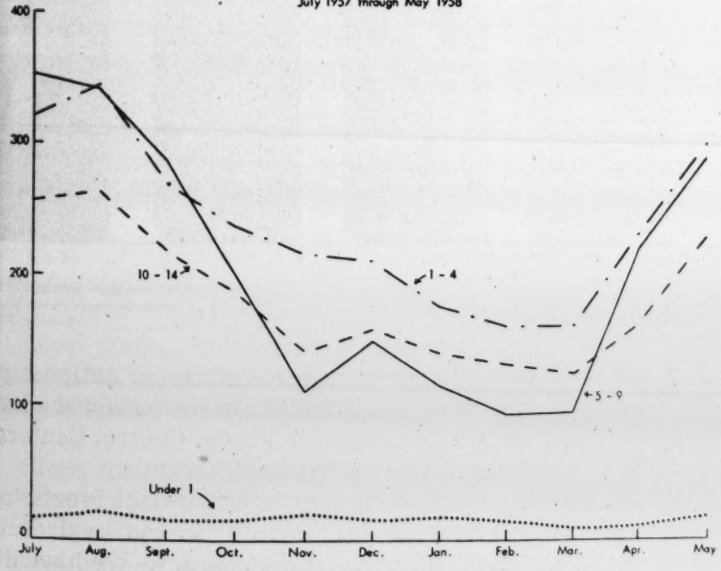
Chart VIII

ACCIDENTAL INJURIES* BY AGE AND MONTH OF OCCURRENCE

July 1957 through May 1958



*Treated at hospitals in one Northeastern United States City

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step toward development of effective *preventive* procedures. As always in public health work, *prevention* is the ultimate goal.

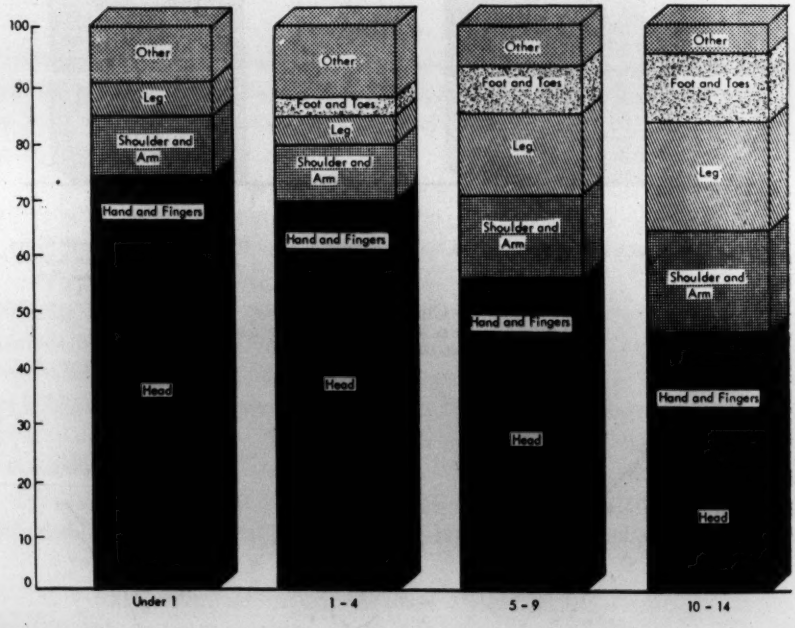
I'm sure we all appreciate the fact that the widespread movement to establish local poison control centers has proved one of the most "contagious" phenomena in public health in this country in recent years.

More than 200 such centers have been set up since the first service of this type was organized in Chicago 5 years ago. Almost every week we receive word of a new local center in operation.

Chart IX

ACCIDENTAL INJURIES* BY AGE AND PART OF BODY WITH PRIMARY INJURY

July 1957 - June 1958



*Treated in hospitals in one northeastern U. S. city.

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In response to requests from several interested national professional organizations, the Public Health Service established over a year ago a National Clearinghouse for Poison Control Centers as a unit of the Service's Accident Prevention Program.

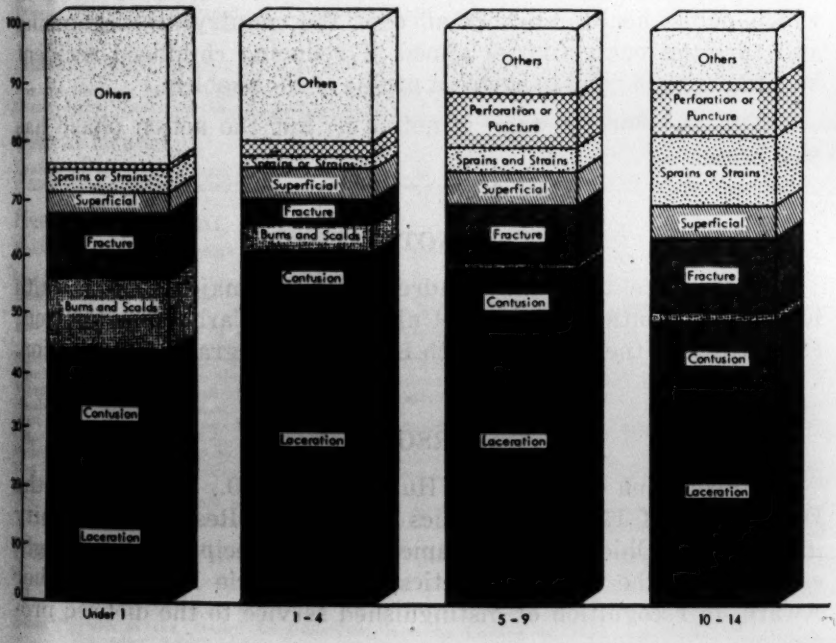
The need for the coordinating and informational functions of this Clearinghouse has increased as rapidly as the local centers have expanded throughout all parts of the country. We have diffi-

culty keeping up with the ever-growing opportunities for service in this field, but we are glad to be over-worked, because we know this means the local poison control centers are making an ever-increasing contribution to child health.

Almost 400 children under 5 years of age died from accidental poisoning (solid and liquid substances) in 1956. All but a few of these poisonings occurred in the "protective" atmosphere of the home. Approximately 600,000 non-fatal cases occur each year.

Chart X

ACCIDENTAL INJURIES* BY AGE AND NATURE OF PRIMARY INJURY
July 1957 - June 1958



*Treated in hospitals in one northeastern U. S. city.

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Local centers provide physicians with ingredient, toxicity, and treatment information concerning some 250,000 trade-name household products, any of which a small child may be tempted to swallow.

Since the typical center is located in a hospital, many cases also receive treatment.

Preventive work through follow-up and education is viewed by the local centers as a major responsibility. Both professional and

community education have been stressed as essential to prevention of childhood poisonings.

The local health department makes its most appropriate contribution to poison control center work on the preventive front. The health department's experience and organization in the health education field prove invaluable to the control center, and the centers in turn become strong allies of the health department in the field of childhood accidents. Voluntary groups, such as those centered around schools, also have a significant role to play in activities of this type.

There has been no time to indicate the variety of ways in which public health workers all over the country are organizing and carrying out activities aimed at reducing childhood accident hazards. I have tried to sketch a profile of the problem.

The fact-finding stage is not over, but the action phase has well begun.

* * * * *

NOTES

With more than one hundred students majoring in Health Education, Southern Illinois University at Carbondale, Illinois, claims to have the largest Health Education program in the Nation.

* * * * *

PERSONAL

Philadelphia — Helen A. Hunscher, Ph. D., chairman of the Department of Home Economics at Western Reserve University in Cleveland, Ohio, has been named the 1958 recipient of the highest honor in the field of dietetics, the Marjorie Hulsizer Copher Award, in recognition of distinguished service to the dietetic profession.

* * * * *

Winner of the Cleveland Health Museum's Elisabeth S. Prentiss National Award in Health Education for 1958 is Dr. Ruth E. Grout, Professor of Health Education at the School of Public Health, University of Minnesota.

The Cleveland Health Museum is the first of its kind, established in 1940. Other health museums are in Dallas, Texas; at the Lankenau Hospital, Philadelphia; and in the Medical Arts Building, Hinsdale, Illinois.

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The Thirteenth Annual Symposium On Fundamental Cancer Research, Genetics and Cancer, February 26, 27, 28, 1959 at The University of Texas, M. D. Anderson Hospital and Tumor Institute, Texas Medical Center, Houston, Texas.

Co-sponsors: The University of Texas Postgraduate School of Medicine; American Cancer Society, Texas Division; Texas State Department of Health.

* * * * *

REVIEWS

Nutrition for Practical Nurses—Phyllis S. Howe, B.S., Nutrition Instructor, Conyra Costa College, San Pablo, Calif. 2nd Edit. 219 pp. 1958. $2.75. W. B. Saunders Co., Philadelphia.

A well-written and well-illustrated review of the newer nutrition facts and findings, presented in three parts, coverying, a) normal nutrition, b) diet therapy, and c) Selection and care of food. An appendix offers tables of nutrient values for foods in household quantities, tables of adult weights and recommended allowances of specific food elements designed for maintenance of good nutrition for healthy children and adults.

There is an excellent list of references published since 1950. Although primarily designed for practical nurses, this booklet should be of use to anyone wishing a concise up-to-date review of nutrition facts and problems.—M.A.H.

Sports and Recreation Facilities: For School and Community. M. Alexander Gabrielson, Ph.D., Professor of Education, New York University; and Coswell M. Miles, Chief, Bur. of P. E. and R., New York State Dept. of Education, Albany, New York. 370 pp. 1958. $6.00 Prentice-Hall, Inc., New York.

Its twenty-four chapters, giving detailed information for planning and designing of modern physical education, sports and recreation facilities were prepared by a group of twenty-one experts in their respective phases of these pro-grams. Emphasis is placed on the need for interrelationship of school and community planners, architects, and teachers in the fields of health, physical education and recreation.

Half-tones, diagrams, line drawings, charts, and construction plans supplement the text in making this book an excellent guide for the planning and construction of sports facilities and recreation areas.—M.A.H.

* * * * * *

NEWS

National Conference on Citizenship

Excerpts from a Letter to the Editor

"It was my privilege to attend the Thirteenth National Conference on Citizenship as a representative of the ASHA. The conference was attended by approximately 500 people. Youth were there in large numbers.

"The topic: Citizenship in a Changing World, stimulated much discussion in the small group sessions. Youth and adults exchanged points of view, reflected deep insights, and revealed prejudices. All in all, I think the discussions were worthwhile and undoubtedly people went home wiser and with a feeling of compassion for others."

Sincerely,

ELSA SCHNEIDER, Specialist
Health, Physical Education, Recreation and Safety.
Dept. of Health, Education and Welfare, Office of Education.

Statement of Purpose—National Conference on Citizenship

PURPOSES: To Support and Strengthen the Efforts of the People in Maintaining the Blessings of Freedom and Justice and in Protecting and Perpetuating the Principles and Ideals upon which this Nation is Founded; to Develop a More Thorough Knowledge of Citizenship Rights and Responsibilities; to Inspire a Deeper Devotion to Citizenship Obligations; to Encourage Ever More Effective Participation in Citizenship Activities and to Promote a Spirit of Cooperation on the Part of All Citizens — to these High Purposes, the National Conference on Citizenship is Dedicated.